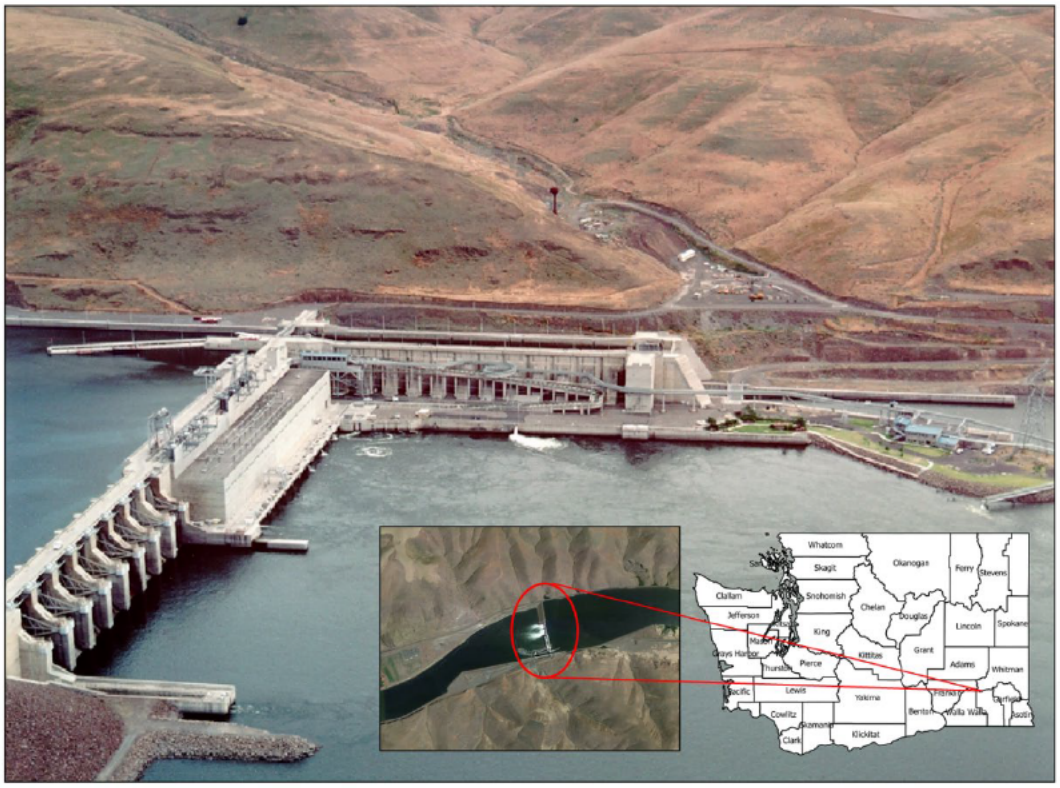
Spill Prevention, Control and Countermeasure Plan

Little Goose Lock and Dam

Dayton, Washington



Prepared for:

U.S. Army Corps of Engineers, Walla Walla District

Little Goose Lock & Dam

1001 Little Goose Dam Road

Dayton, WA 99328

Prepared by:

Environment International Government, Ltd.

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Seattle, Washington 98105

Tel: 206.525.3362 Fax: 206.525.0840

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN
FOR LITTLE GOOSE LOCK & DAM
DAYTON, WASHINGTON

December, 2015

U.S. Army Corps of Engineers
Walla Walla District
Little Goose Lock & Dam
1001 Little Goose Dam Road
Dayton, WA 99328

MANAGEMENT APPROVAL

U.S. Army Corps of Engineers is committed to the prevention of discharges of oil to navigable waters and the environment and maintains the highest standards for spill prevention control and countermeasures through regular review, updating and implementation of this Spill Prevention, Control, and Countermeasure Plan for Little Goose Lock & Dam.

Signature: _____ Date:_____

Justin Stegall
Operations Project Manager

CERTIFICATION

I hereby certify that: (1) I am familiar with the provisions of Title 40 CFR, Part 112; (2) I or my agent visited and examined this facility; (3) this Spill Prevention, Control and Countermeasure Plan has been prepared in accordance with good engineering practices including consideration of applicable industry standards and the requirements of 40 CFR part 112; (4) procedures for required inspections and testing have been established; and (5) this Plan is adequate for this facility.

Signature: _____ Date:_____

Chad A Rhynard, P.E.
Registered Professional Engineer
State of Washington
Board of Engineering Examiners
Certificate No.:
Expires:

Spill Prevention Control and Countermeasure Plan

Plan Review Documentation

Little Goose Lock & Dam
U.S. Army Corps of Engineers
Walla Walla District
1001 Little Goose Dam Road
Dayton, WA 99328

Spill Prevention, Control, and Countermeasure (SPCC) Plans must be reviewed and evaluated every five years. Pursuant to the 40 CFR Part 112 regulations, the SPCC Plan for this facility must be reviewed by January 2021.

When the SPCC Plan is reviewed one of the following certifications must be completed:

If No Revisions Are Needed

I have reviewed and evaluated the SPCC Plan for this facility and will not revise this plan as a result. The SPCC Plan for this facility was certified by a Professional Engineer in _____ (input date). Since that time, there have been no changes in the facility design, construction, operation or maintenance that materially affect the facility's potential to discharge oil.

Signature: _____ Date:_____

Title:_____

If Revisions Are Needed

I have reviewed and evaluated the SPCC Plan for this facility and will revise this plan as a result. The revisions must be completed and implemented within six months of this review. Technical revisions must be certified by a Professional Engineer.

Signature: _____ Date: _____

Title:_____

LITTLE GOOSE LOCK & DAM
1001 Little Goose Dam Road
Dayton, WA 99328

SPCC PLAN REVIEW & AMENDMENT LOG

Amendment Number	Summary of Amendments	Plan Section(s)	Date	Name	Signature[1]
0	Initial Plan Development	All	Jan 1995	OBI	
1	Update Contact Info	Appendix E	Dec. 1996	TGC	
2	General Update	All	May 1997	TGC	
3	General Update	All	May 1998	RAB	
4	General Update	All	Aug. 2000	RAB	
5	General Update	All	Mar. 2001	RAB	
6	General Update	All	Nov. 2001	RAB	
7	General Update	All	Mar. 2002	RAB	
8	Update Contact Info	Appendix E	Aug. 2002	RAB	
9	Update Contact Info	Appendix E	May 2003	DER	
10	Five Year Amendment	All	Jan. 2008	USACE	
11	Plan Revision	All	Jan. 2011	USACE	
12	Update contact info	Appendix E	Dec. 2012	SRT	

[1] 7A registered Professional Engineer must certify any changes that materially affect the facility's potential to have a spill.

13	Update contact info	Appendix E	Mar. 2013	SRT	
14	Update contact info	Appendix E	Feb. 2014	SRT	
15	Plan Revision	All	Dec. 2015	Environmental International Government Ltd., Craig Christian, P.E.	
16	General Update	All	July 2022		

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1. STATE AND FEDERAL REQUIREMENTS

1.1 FEDERAL REQUIREMENTS

Federal regulations require the preparation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan for those facilities that could be reasonably expected to discharge oil in harmful quantities into or upon the surface waters or adjoining shorelines of the United States. The purpose of the SPCC Plan is to ensure practices and procedures are in place to minimize the risk or occurrence of an event that could introduce oil onto surface waters of the United States or affect natural resources of the United States.

Owners or operators of non-transportation related onshore facilities engaged in storing, transferring, using, or consuming oil and oil products, and which due to their location, could reasonably be expected to discharge oil in harmful quantities into or upon surface waters or natural resources and have total aboveground storage capacity greater than 1,320 gallons of oil must prepare and implement an SPCC Plan. The United States Army Corps of Engineers (USACE) has prepared a SPCC Plan for Little Goose Lock and Dam, hereafter referred to as "Project", because the facility stores more than 1,320 gallons of oil and a spill could reasonably be expected to reach surface waters of the United States. **Table 1.1** provides a cross-referencing of SPCC requirements to specific sections in this plan.

Implementation of this SPCC Plan will be the responsibility of the Operations Project Manager, or his/her designee. The SPCC Plan identifies measures to prevent foreseeable potential releases of oil to surface waters; however, not every potential situation can be foreseen.

Facilities that could reasonably be expected to cause substantial harm to the environment are required by 40 CFR 112 to have a Facility Response Plan. Facilities that are not expected to cause substantial harm based on the substantial harm criteria must complete a certification of Substantial Harm Determination Criteria form and maintain the form as part of their SPCC Plan. Based on the substantial harm criteria, a Facility Response Plan is not required for the Little Goose Lock and Dam Project. The Certification of the Applicability of Substantial Harm Criteria form is provided in **Appendix A**.

Table 1.1 SPCC Rule Cross-Reference

SPCC Rule Section	Description of Section	Plan Section
§112.7	General requirements for SPCC Plans for all facilities and all oil types.	§ 1
§112.7(a)	General requirements; discussion of facility's conformance with rule requirements; deviations from Plan requirements; facility characteristics that must be described in the Plan; spill reporting information in the Plan; emergency procedures.	All
§ 112.7(b)	Fault analysis.	§ 3 - § 6
§ 112.7(c)	Secondary Containment / Spill Prevention Systems.	§ 3 - § 6
§ 112.7(d)	Contingency planning.	§ 10
§ 112.7(e)	Inspections, tests, and records.	§ 3 - § 6, § 8
§ 112.7(f)	Employee training and discharge prevention procedures.	§ 12
§ 112.7(g)	Security (excluding oil production facilities).	§ 11
§ 112.7(h)	Loading/unloading (excluding offshore facilities).	§ 7
§ 112.7(i)	Brittle fracture evaluation requirements.	NA[2]
§ 112.7(j)	Conformance with state requirements.	§ 1.2
§ 112.8	Requirements for onshore facilities (excluding production facilities).	§ 3 - § 6
§ 112.8(a)	General and specific requirements.	§ 3 - § 6
§ 112.8(b)	Facility drainage.	§ 3 - § 6
§ 112.8(c)	Bulk storage containers.	§ 3 - § 6
§ 112.8(d)	Facility transfer operations, pumping, and facility processes.	§ 3 - § 7
§ 112.9 - § 112.15 (all)	Not Applicable; § 112.12 may be applicable if the facility begins using vegetable oil in its hydraulic systems.	NA[3]

NA: Not applicable to this facility.

1.2 STATE REQUIREMENTS

The facility is located on the Snake River in Washington. Although this federal facility is not under the authority of state regulations, this Plan will incorporate the regulations of Washington, as applicable. Washington requirements for a spill plan are codified in Washington Administrative Code (WAC) 173-180. Spill response procedures and inspection checklists are provided as **Appendices C and D**. The State of Washington requests immediate notification of any reportable discharge of petroleum products to the soil or waters of the United States. In the event of such a spill, Ecology should be notified. Contact information is provided in Section 2.2 and **Appendix C** and spill reporting procedures are discussed in Section 10.2.4.

[2] Field-constructed aboveground containers are not present at Little Goose Lock & Dam.

[3] Vegetable oil is not used and will not be used in any system at Little Goose Lock & Dam.

1.3 SPCC PLAN REVIEW & AMENDMENT REQUIREMENTS

This SPCC Plan will be amended whenever there is a change in facility design, construction, operation, or maintenance that materially affects the potential for discharge of oil into or upon the surface waters of the United States. Amendments will be incorporated as soon as practical, but not later than six months after such change occurs.

Additionally, the Project Environmental Compliance Coordinator (ECC) or designee must review and evaluate this SPCC Plan at least once every five years from the date the plan was last reviewed. As a result of this review and evaluation, the plan will be amended within six months to include more effective prevention and control technology, if appropriate. A registered Professional Engineer must certify any changes that materially affect the potential for spills at the Project.

Each review or amendment to this SPCC Plan must be documented in the Review and Amendment Log that follows the Plan Review Documentation Form in the front of this plan. Documentation shall include a summary of the review or amendment, the number, date and plan sections affected by the review or amendment and the name and signature of the person completing the review or amendment.

2. FACILITY INFORMATION

2.1 GENERAL INFORMATION

Name of Facility:	Little Goose Lock and Dam
Address of Facility:	1001 Little Goose Dam Road, Dayton, WA 99328
Location of Facility:	River Mile 70.3, Dayton, WA 99328
Operator of Facility:	USACE, Walla Walla District
Project Environmental Compliance Coordinator (ECC):	Samantha Strevy

2.2 EMERGENCY CONTACTS

2.2.1 Little Goose Lock & Dam Staff

THE FIRST CALL made by the person identifying a spill is to the Control Room Operator.

Little Goose Dam Control Room	Phone
Offsite	(509) 399-2233 Ext. 231
On Site	Code Call 80-111 or Ext. 231

The **Operator in Charge (OIC)** will notify one of the following **IMMEDIATELY, in the established order**, with available information until relieved of the responsibility to make the next call(s) on the list. If no one on the list can be contacted, the OIC will notify the National Response Center (NRC) within one-hour of an oil spill that produces sheen on the Snake River.

Contact	Name	Phone		
		Office	Home	Mobile
Primary Facility Contact Incident Commander, Operations Project Manager	Justin Stegall	(509) 399-2233 Ext. 251 Pager 112	(b)(6)	
Project ECC, Incident Commander	Samantha Strevy	Ext. 288 Pager 321		
Chief of Operations	Codie Phelps	Ext. 253 Pager 114		
Chief of Maintenance	Ben Feider	Ext. 256 pager 161		
Chief of Technical Section	Jack Bryson	Ext. 258 pager 169		
Mechanical Foreman		Ext. 244		
Electrical Foreman	Zach Bakker	Ext. 243		
Natural Resources Manager	Jason Achziger	509-751-0251		
USCG National Response Center (NRC)		(800) 424-8802		
Washington Emergency Management Division		(800) 258-5990		
Walla Walla District ECC	Matt Drumheller	(509) 527-7121		

2.2.2 Walla Walla District Executive Staff

After notifying the appropriate Little Goose staff, management may notify the following (as necessary):

Contact	Name	Phone		
		Office	Home	Mobile
District Commander	LTC ShaiLin KingSlack	(509) 527-7700		(b)(6)
Deputy District Commander	MAJ Wallace Bandeff	(509) 527-7702		
Chief of Operations	Paul Ocker	(509) 527-7101		
Assistant Chief of Operations	Jamie Howard	(509) 527-7102		
Public Affairs Office	On-Call Person	(509) 527-7020		
Chief, Technical Support Branch	Chad Rhynard	(509) 527-7111		
Lead Fish Biologist	Chris Peery	(509) 527-7124		
NWW EOC Duty Phone	On-Call Person			

2.2.3 Additional Project Information & Specific Contacts

The Project ECC and/or management may notify the following depending on the situation.

Contact	Name (if applicable)	Phone	
		Office	Mobile
Washington Department of Ecology, Eastern Regional Office		(509) 239-3400	
EPA Region 10 SPCC Coordinator	Richard Franklin	(503) 326-2917	
Washington State Patrol		(800) 283-7803	
Columbia County Sheriff (Non-Emergency)		(509) 382-2518	
Walla Walla County Sheriff (Non-Emergency)		(509) 773-4545	
EPA Region 10 Emergency Response Center		(206) 553-1263	

Prior to calling outside spill response organizations, NWW District Contracting approval must be obtained.

Contact	Name	Phone		
		Office	Home	Mobile
Chief, Contracting Division	Ted Turney	(509) 527-7201		
Branch Chief, Contracting, Supplies and Services	Tracy Gluck	(509) 527-7421		
Spill Response Contractors – USCG Blanket Operating Agreement (BOA)		NRC Environmental	(800) 337-7445	

2.3 SETTING & USE

Constructed between 1963 and 1970, Little Goose Lock & Dam (Project) is a concrete gravity-type dam with an earth-fill abutment embankment. It spans the Snake River at

River Mile 70.3 near Starbuck, Washington, as shown in **Figure 2.1**. The Project includes the dam, a navigation lock, a powerhouse, a fish ladder, and associated facilities providing navigation, hydroelectric power generation, recreation, and incidental irrigation. The Project is operated by the Walla Walla District of the USACE.

The dam is a concrete structure 100 feet high and 2,655 feet long. The spillway consists of 8 gates and is 512 feet in length. The powerhouse contains six turbines capable of producing 135 megawatts of power each, for a total power output of 810 megawatts. Little Goose has a single-lift lock with a 100-foot vertical lift. Lake Bryan, created by the Project, runs upstream about 37.2 miles to Lower Granite Lock and Dam.

2.4 PETROLEUM STORAGE CAPACITY

Petroleum products are stored in various types of containers and equipment in four different locations at the Project. This equipment consists of fuel and oil storage containers, lubricating and hydraulic systems, and generators. This equipment is inspected annually, at a minimum, and immediately repaired as necessary. The types of petroleum products stored at the Project include diesel fuel, gasoline, gear oil, lubricating oil, and transformer oil, with the bulk of the product consisting of transformer and turbine oil. Storage of these products is in both interior and exterior locations throughout the Project.

The four main oil-storage locations at the Project are:

1. The Powerhouse,
2. The Intake Deck and Spillway,
3. The Navigation Lock, and
4. The Resource Yard and other locations.

The Powerhouse, Intake Deck and Spillway, and Navigation Lock are located over the Snake River with the Powerhouse and the Navigation Lock adjacent to the south shore. The Resource Yard, located on the south shore, includes a spare unit transformer and a gasoline AST. The flammable material storage building is located within the security fence on the south side of the dam under the fish ladder. **Figure 2.2** shows the locations where petroleum is stored at the Project.

The largest quantities of oil product at the Project are transformer oil and turbine oil. More than 80,000 gallons of transformer oil are stored within eight transformers (capacities ranging from 1,150 to 15,539 gallons) located in the Powerhouse and along the top the Powerhouse. There are two 20,000-gallon transformer oil storage tanks located in the oil storage room of the Powerhouse to be used as emergency storage. Approximately 60,000 gallons of turbine oil is stored in between the 6 turbines in the Powerhouse. There are two 10,000-gallon tanks located in the oil storage room of the

Powerhouse used to hold turbine oil as needed. **Table 2.1** summarizes the regulated petroleum storage capacity[4] in each Project location.

Table 2.1 Project Regulated Petroleum Capacity

Area	Regulated Storage Capacity
Powerhouse	148,284 gallons
Intake deck & Spillway	83,596 gallons
Navigation Lock	1,230 gallons
Resource Yard & Various	11,055 gallons
Total Project Capacity	**244,165 gallons**

2.5 DRAINAGE PATHWAYS

Portions of the Little Goose Project are located directly over the Snake River. In most instances, Project storm drains and floor drains eventually discharge into the Snake River. Powerhouse interior drains are routed to the Powerhouse drainage sump before discharging into the river. The deck drains on the spillway drain directly to the river. The Navigation Lock pumps to the river. The north non-overflow has the sump to contain leakage in the grout galleries. Navigation Lock storm and floor drains discharge into French drains on the north and south side of the lock. The Navigation Lock drainage pumps only operate to remove water to allow inspection of the Lock floor and/or annual inspection of the culverts. The Lock is drained thru the drain valve on the Northside of the Lock and this water is discharged to the Snake River.

The power generation transformers, maintenance cranes, and access roads are located on top of the dam Powerhouse, herein called the "Intake Deck." This area is constructed of concrete and open gratings. Drainage from this area would enter the dam spillway and flow to the Snake River. Some gratings drain to the bulkhead slots and the rest drain to directly to the Snake River. There are concrete containment curbs which surround the six Main Unit Transformers that provide some secondary containment. Drains within the containment are plugged, such that a small spill would be contained within the curbed area. If plugs are pulled, the transformers drain to the Intake Gate slot and then to the Extended Submersible Barrier Screen (ESBS) slot and then to the river. A spill or leak on the access road outside the transformer containment areas would likely drain directly into the Snake River through gratings located across the roadway.

[4] Regulated storage capacity includes contributions from equipment and containers containing 55 gallons or greater of petroleum products. The capacity calculation does not include containers with capacities less than 55 gallons. Petroleum products at the Project include, but are not limited to: diesel fuel, gasoline, transformer oil, lubricating oil, and hydraulic oil.

Figure 2.1 – Site Location Map

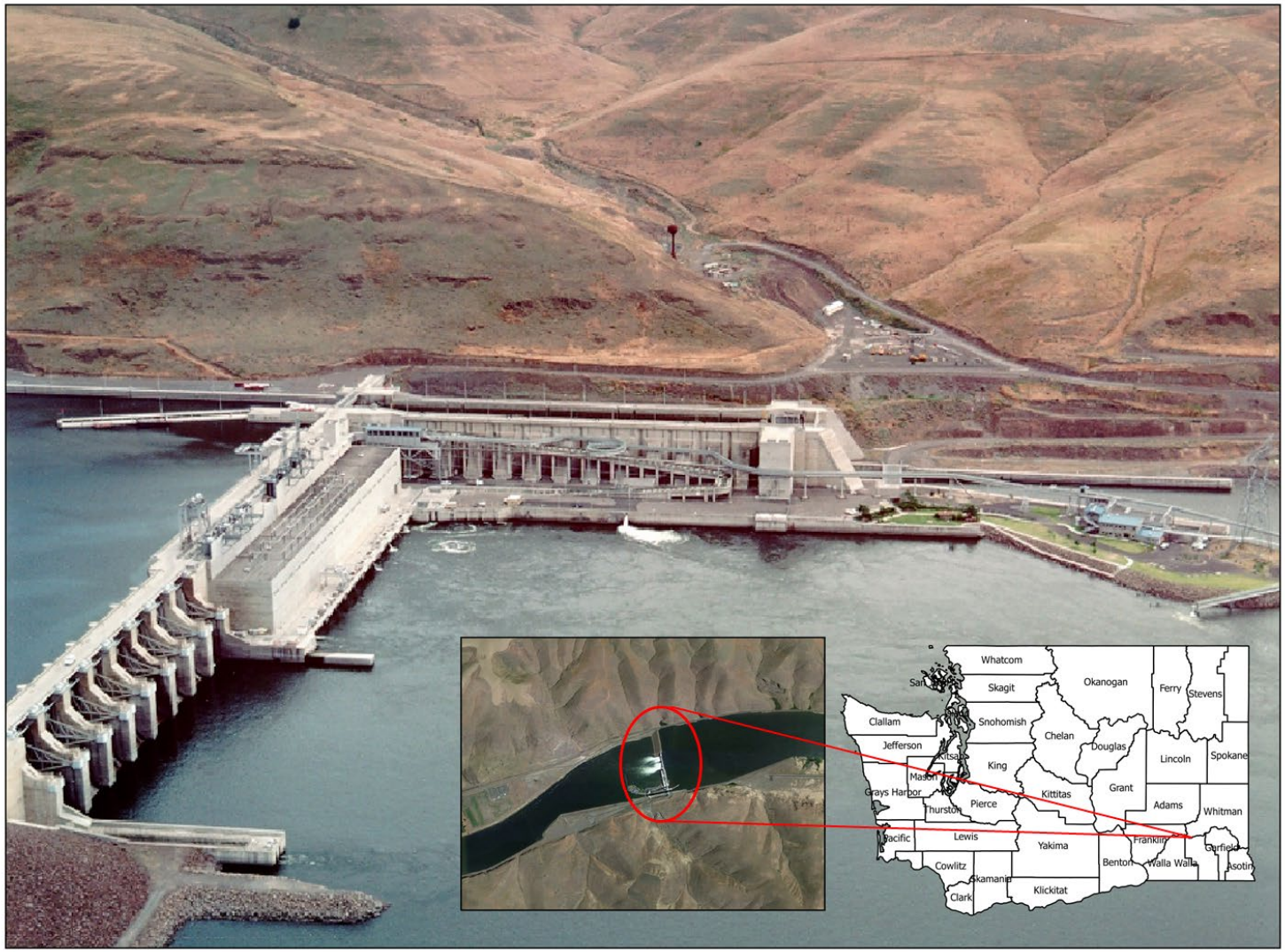


Figure 2.2 – Petroleum Locations at Little Goose Lock & Dam

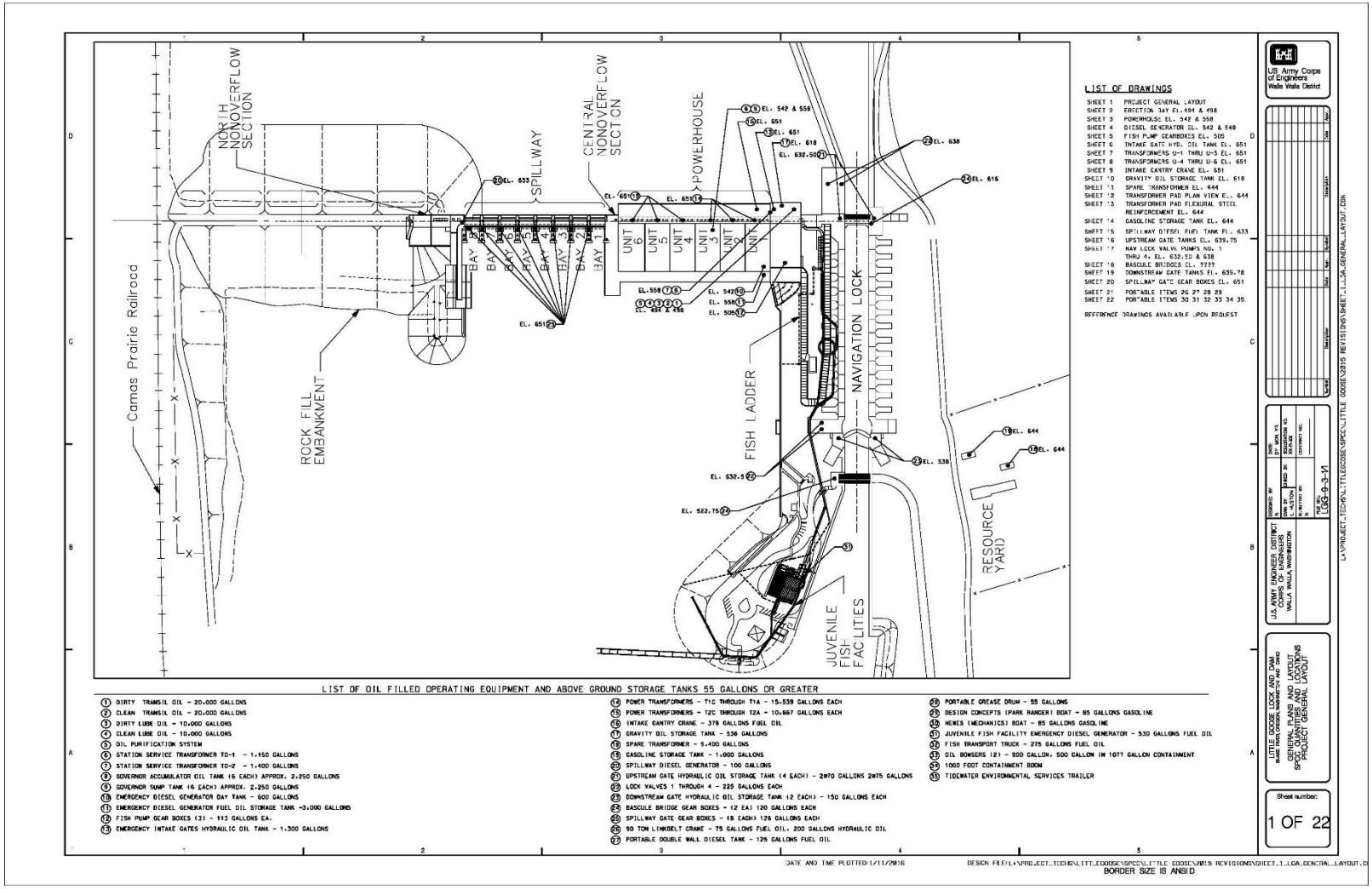


Figure 2.3 – Erection Bay Plan View

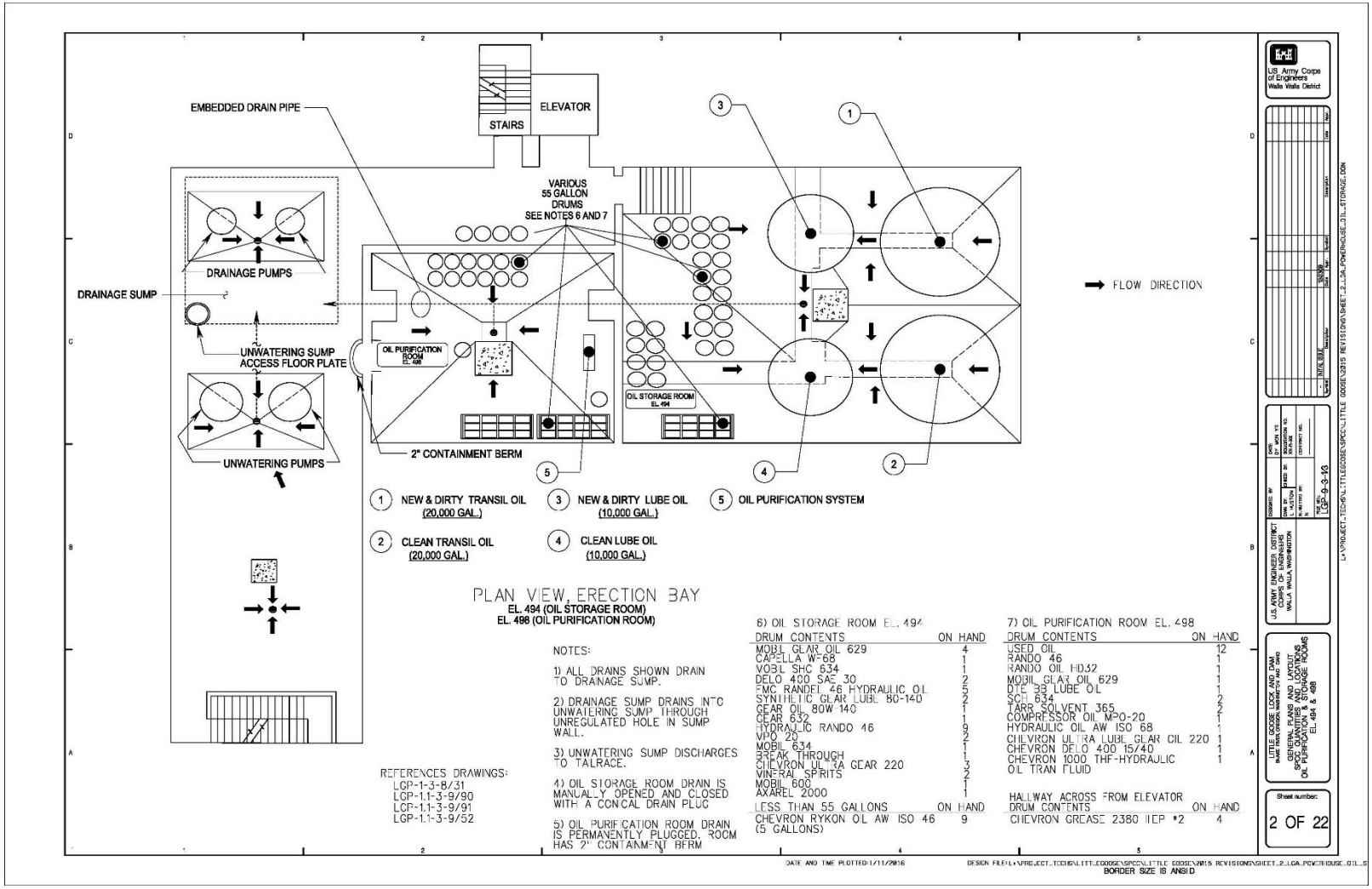


Figure 2.4 – Powerhouse Plan View

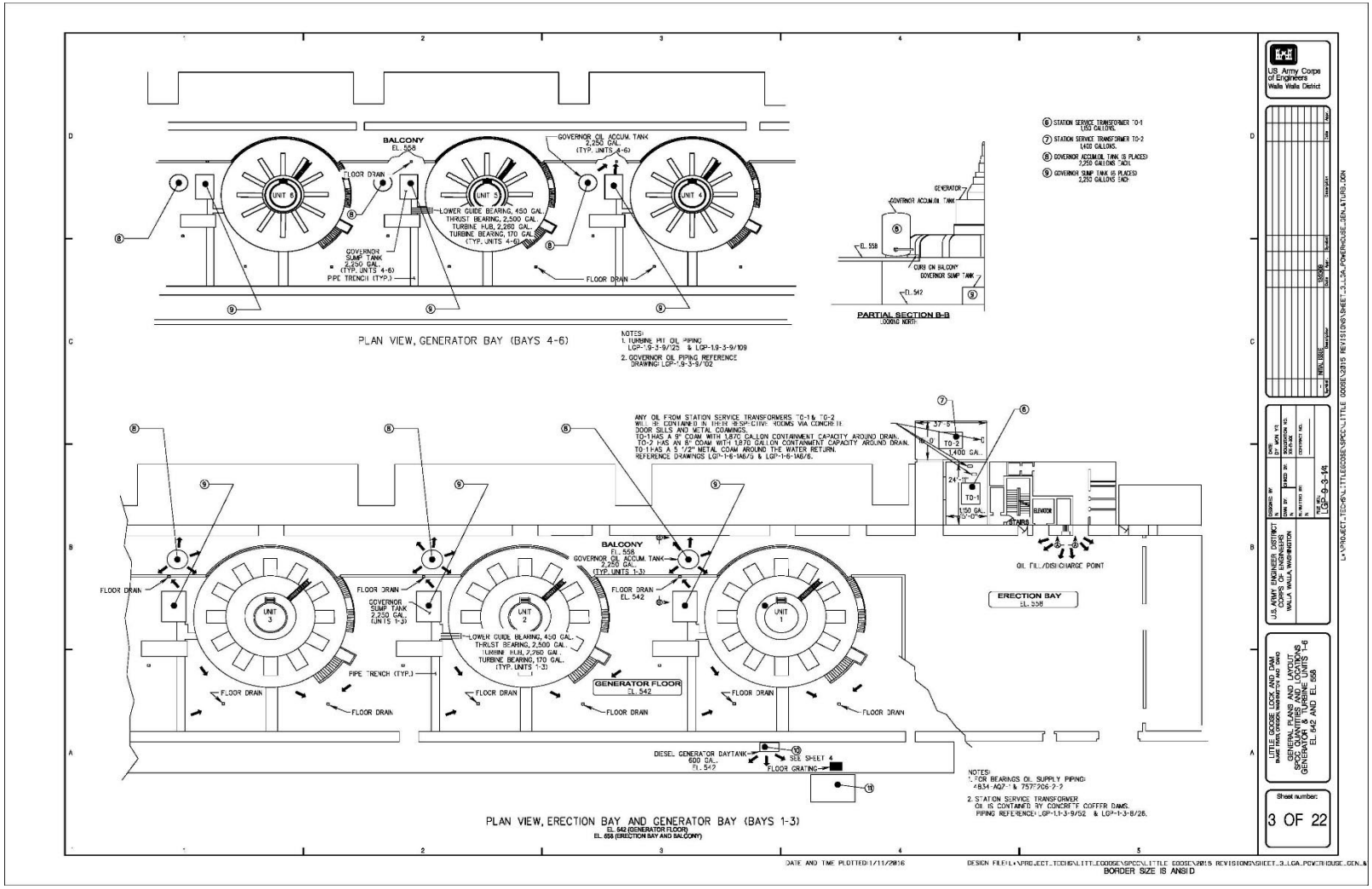


Figure 2.5 – Diesel Generators

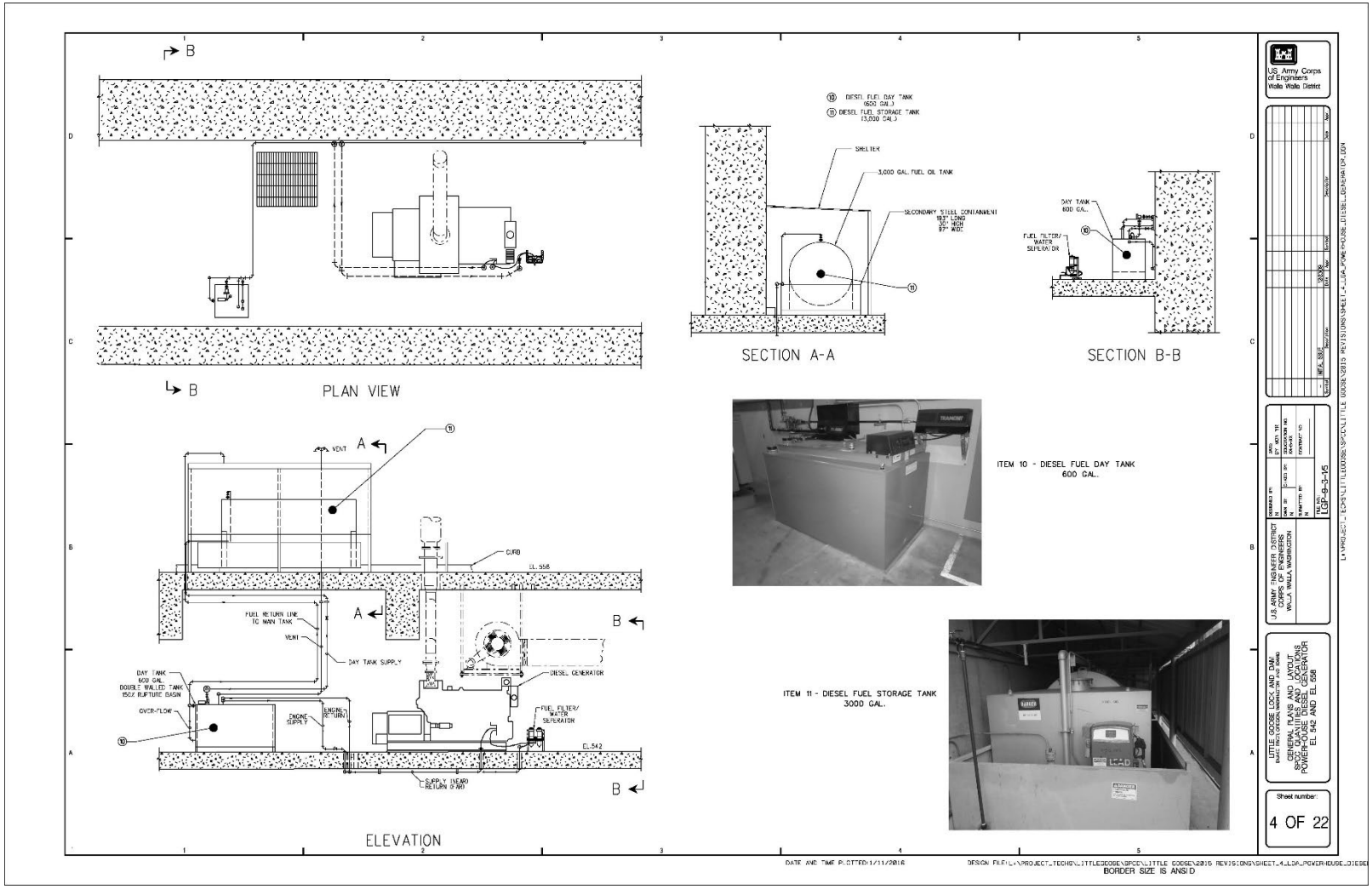


Figure 2.6 – Fish Pump Gear Boxes

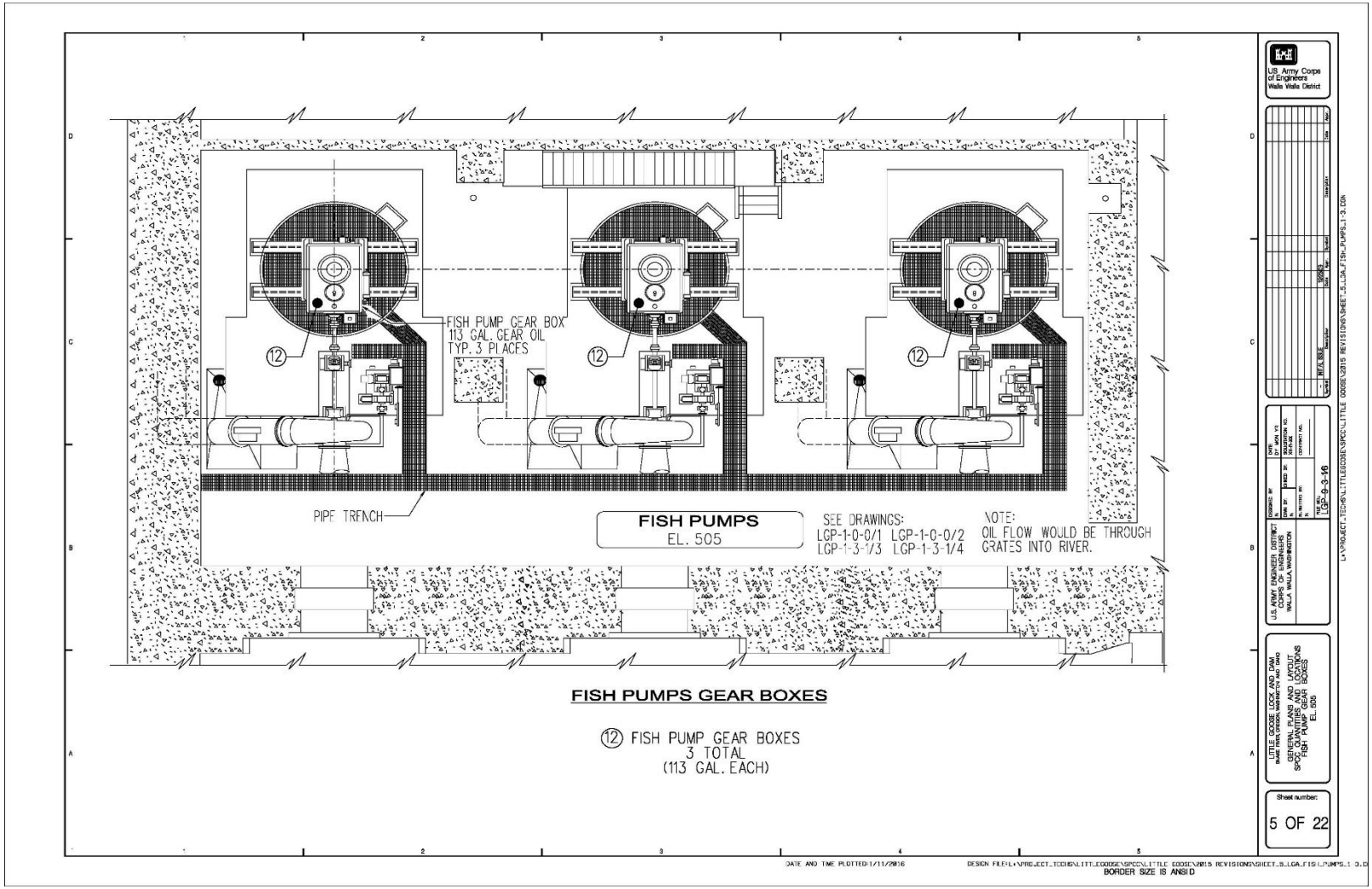


Figure 2.7 – Emergency Intake Gate Hydraulic Oil Tank

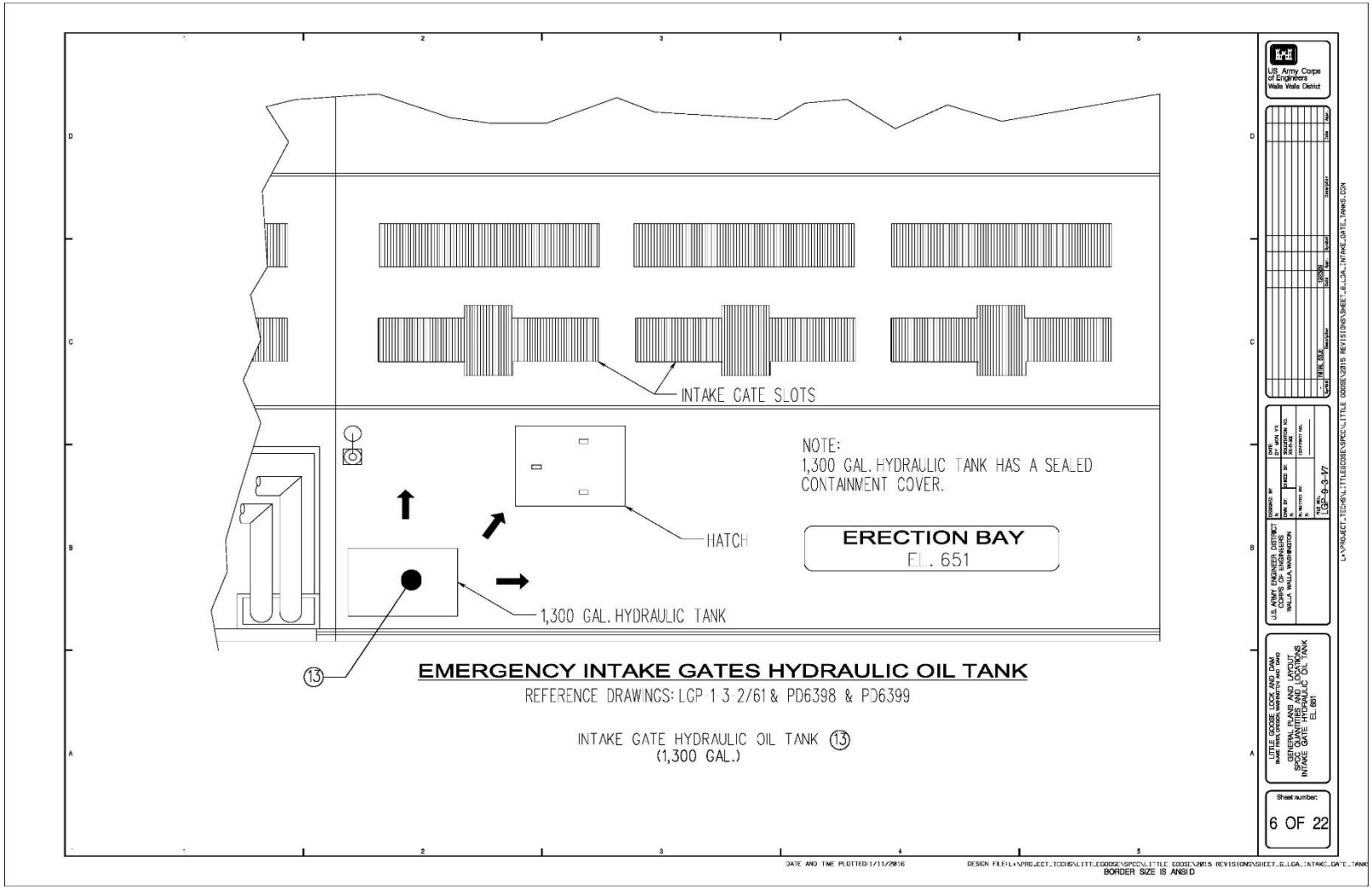


Figure 2.8 – Transformer Units 1 – 3

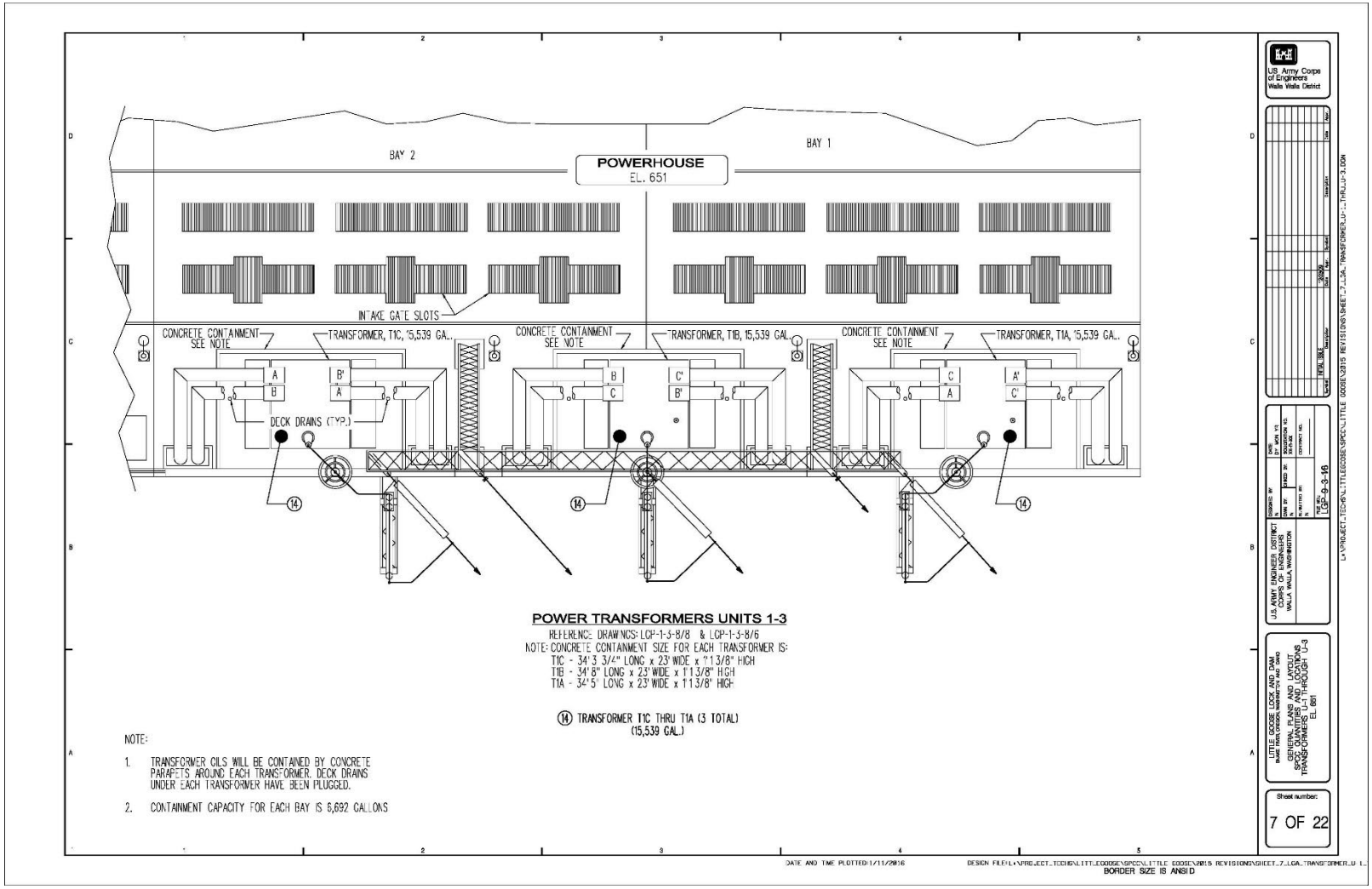


Figure 2.9 – Transformer Units 4 – 6

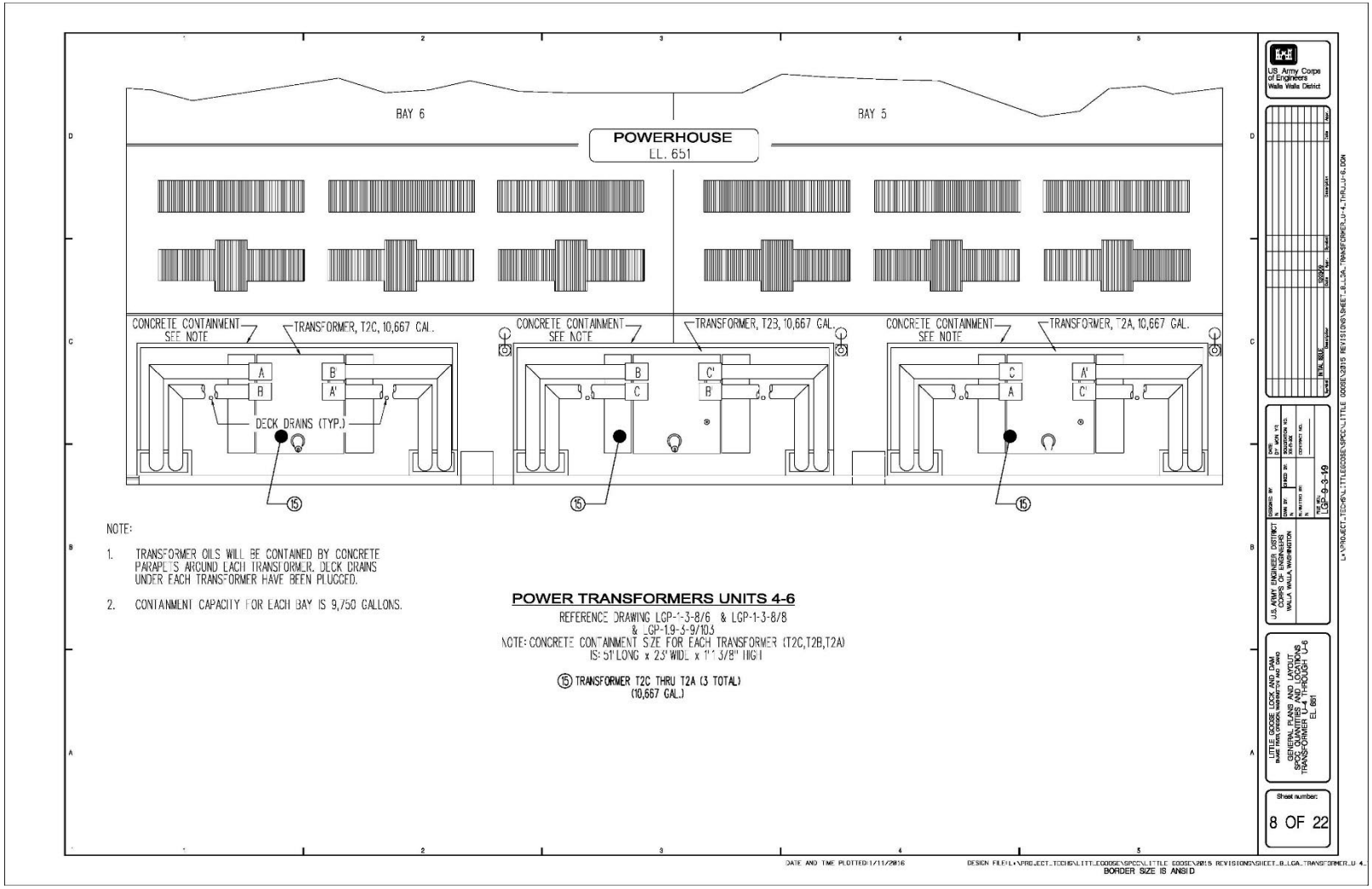


Figure 2.10 – Intake Gantry Crane

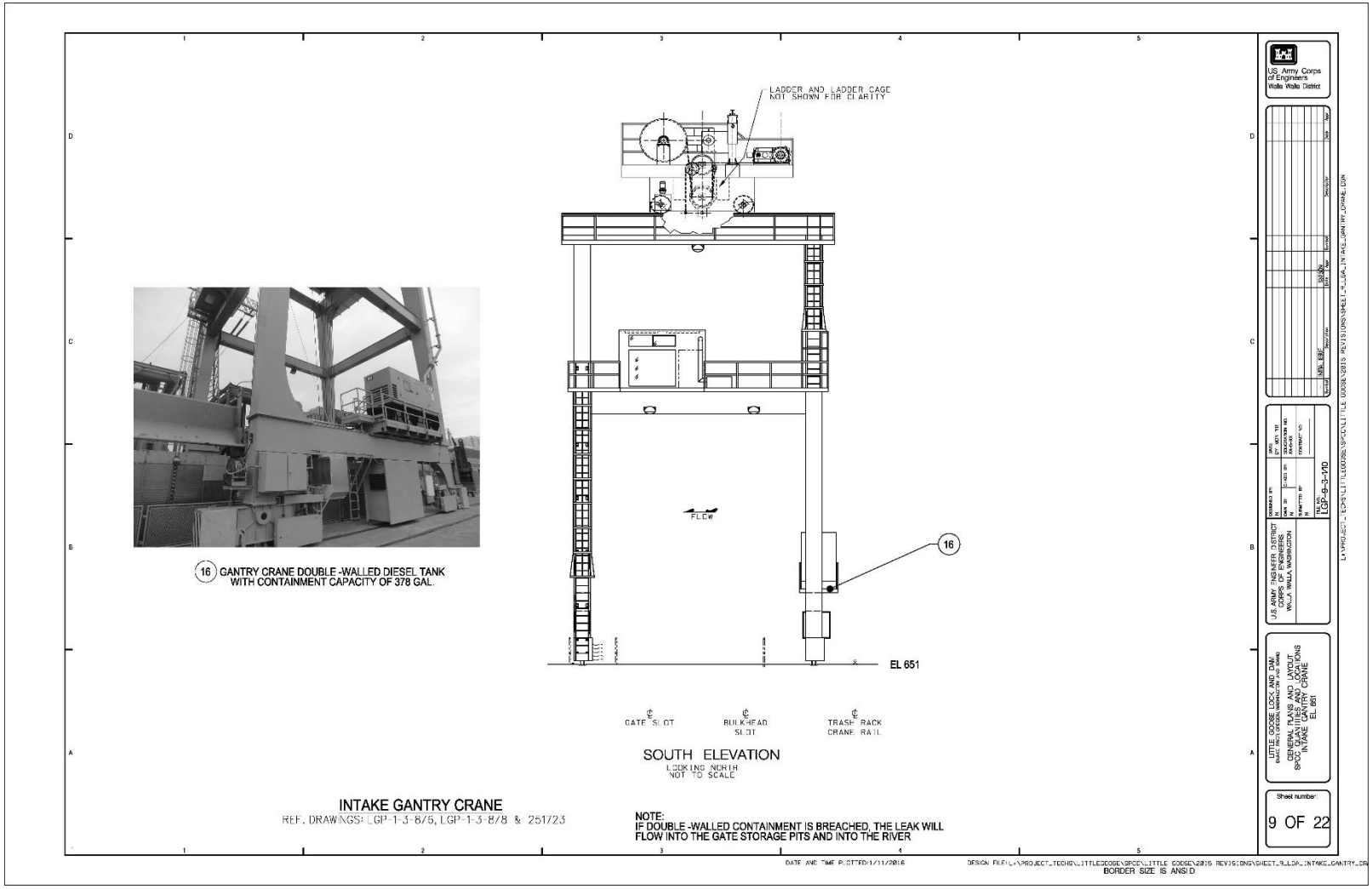


Figure 2.11 – Gravity Oil Storage Tank

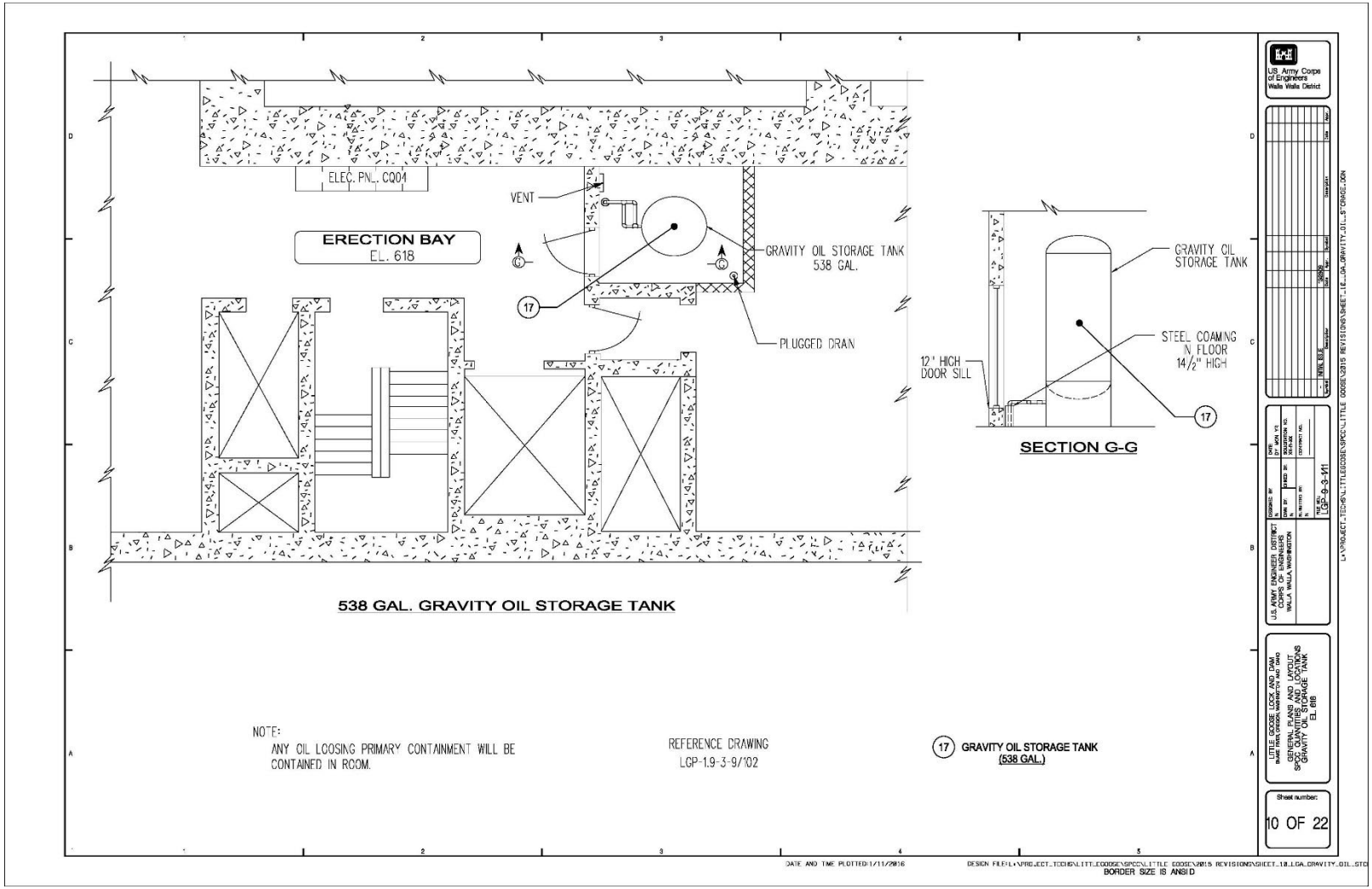
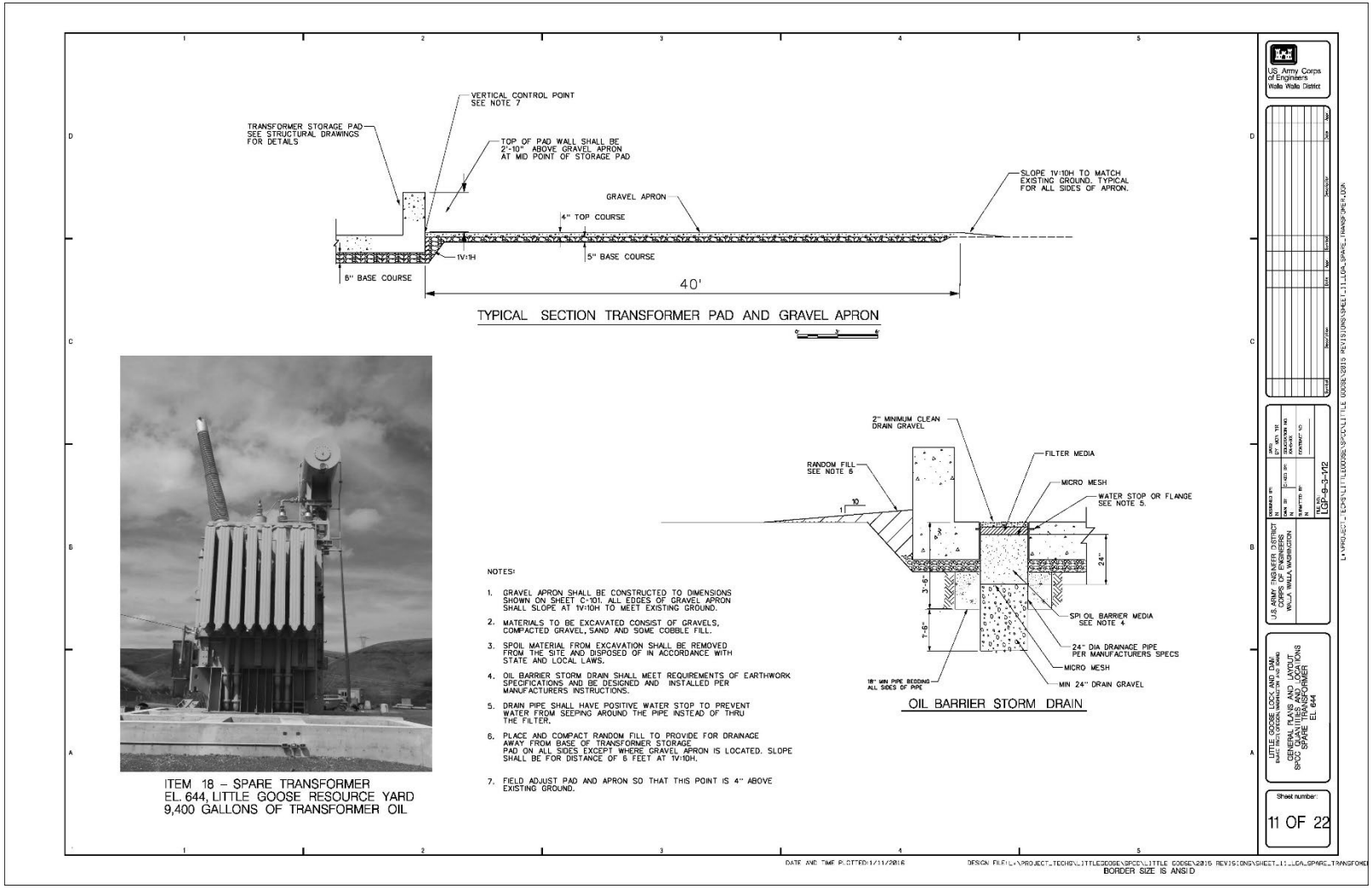


Figure 2.12 – Spare Unit Transformer



This transformer has been installed the Project is currently waiting on the replacement.

Figure 2.13 – Transformer Pad Plan View

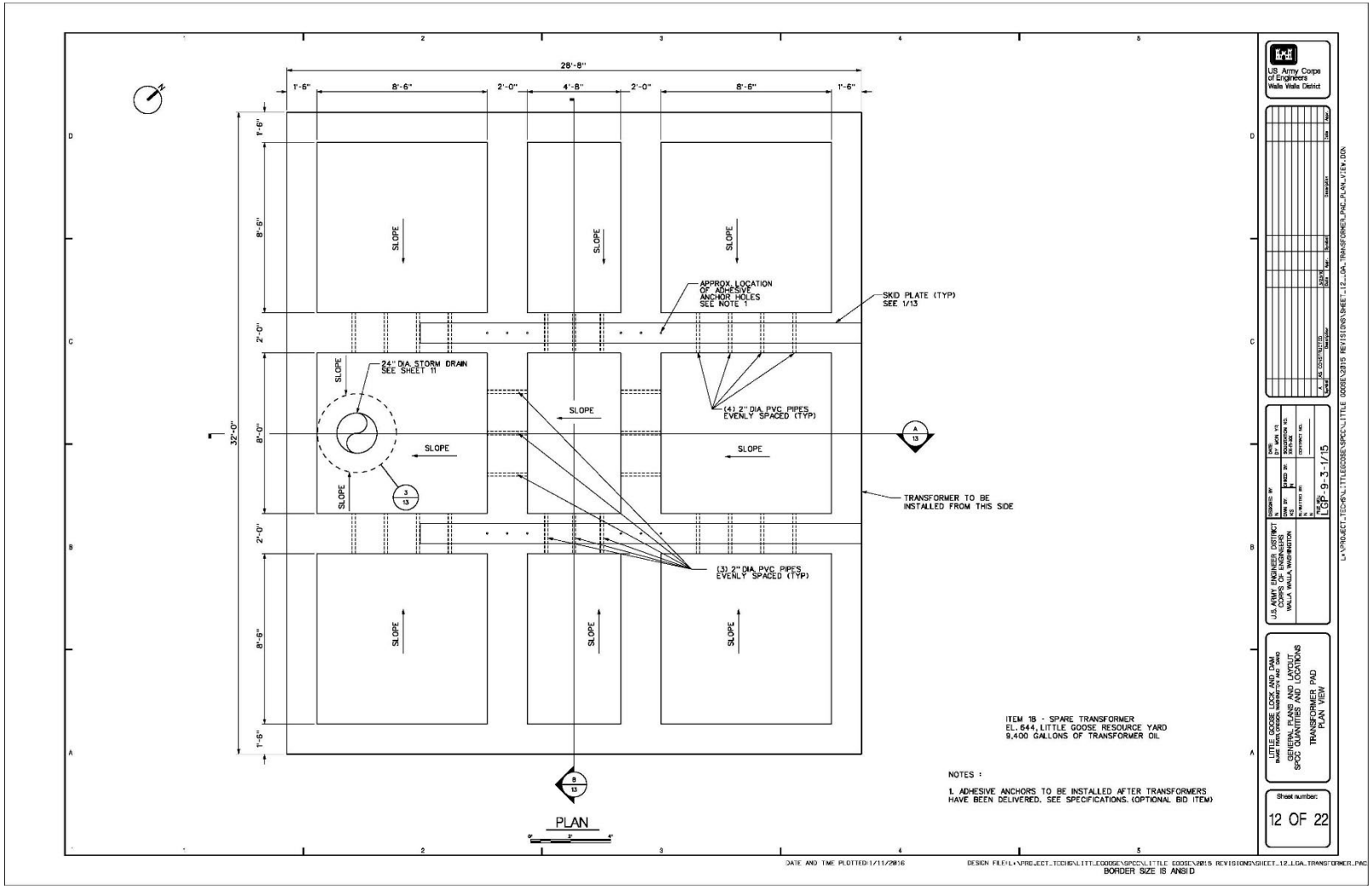


Figure 2.14 – Transformer Pad Flexural Steel Reinforcement

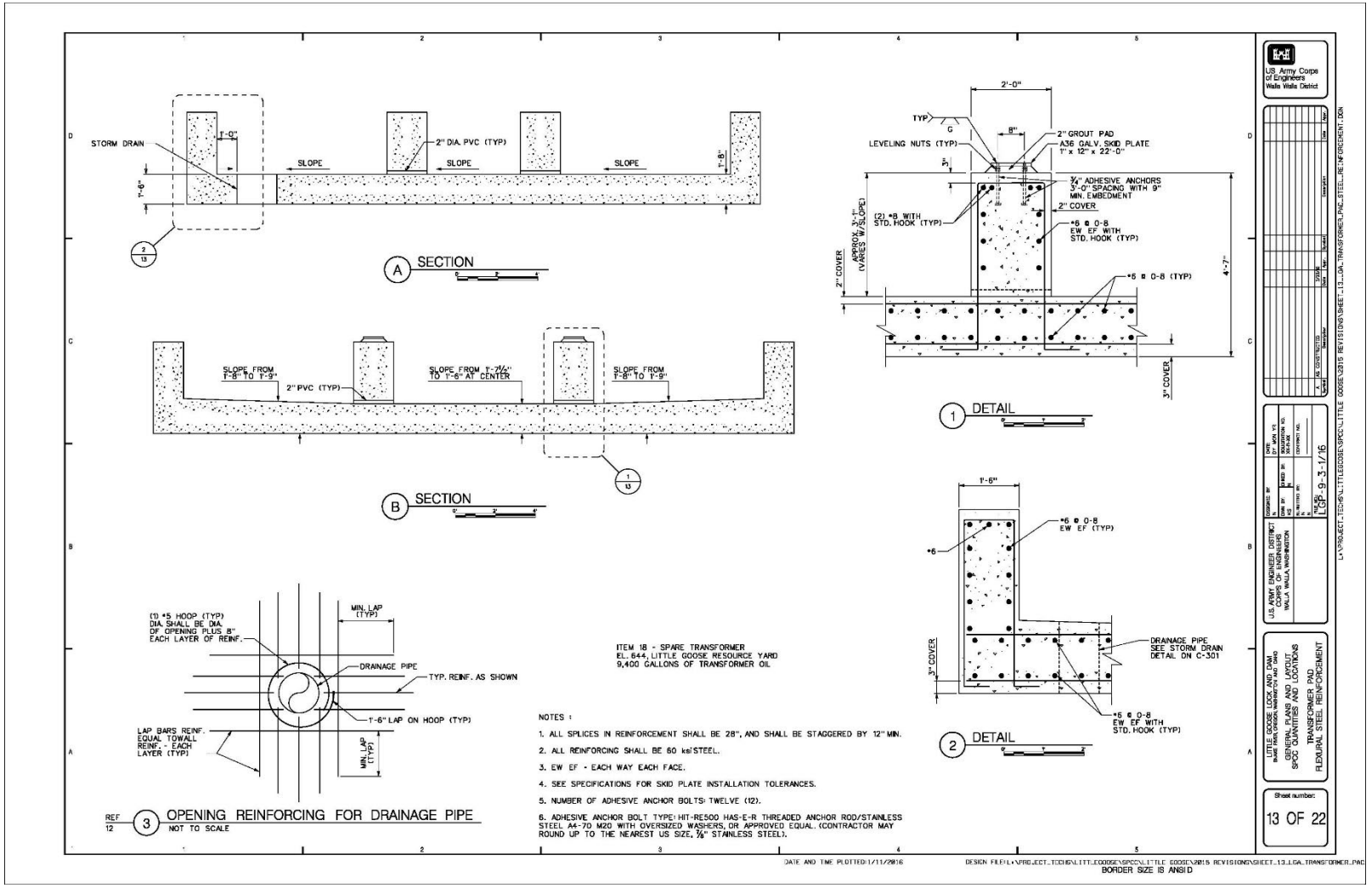


Figure 2.15 – Gasoline Storage Tank

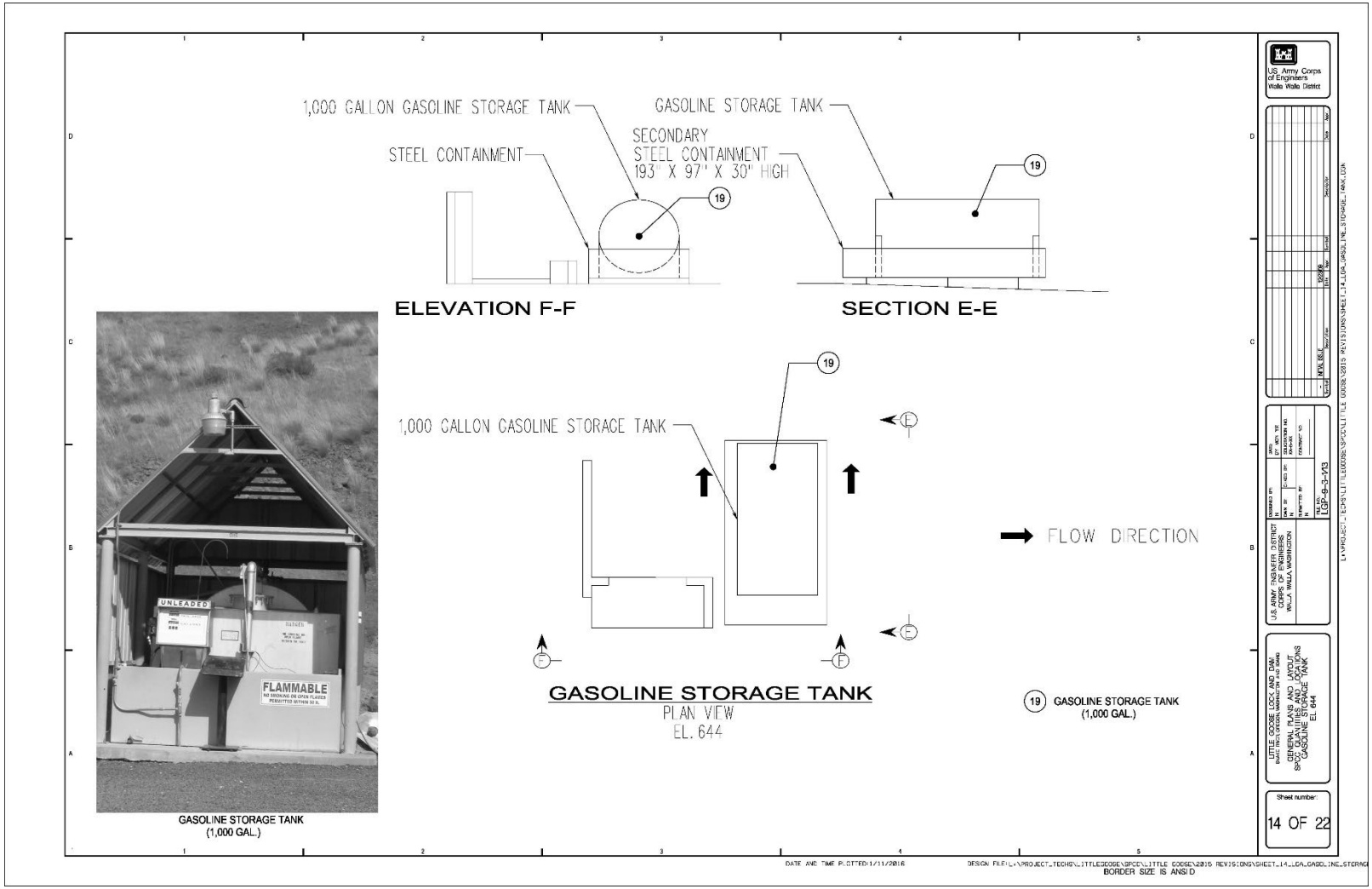


Figure 2.16 – Spillway Diesel Generator

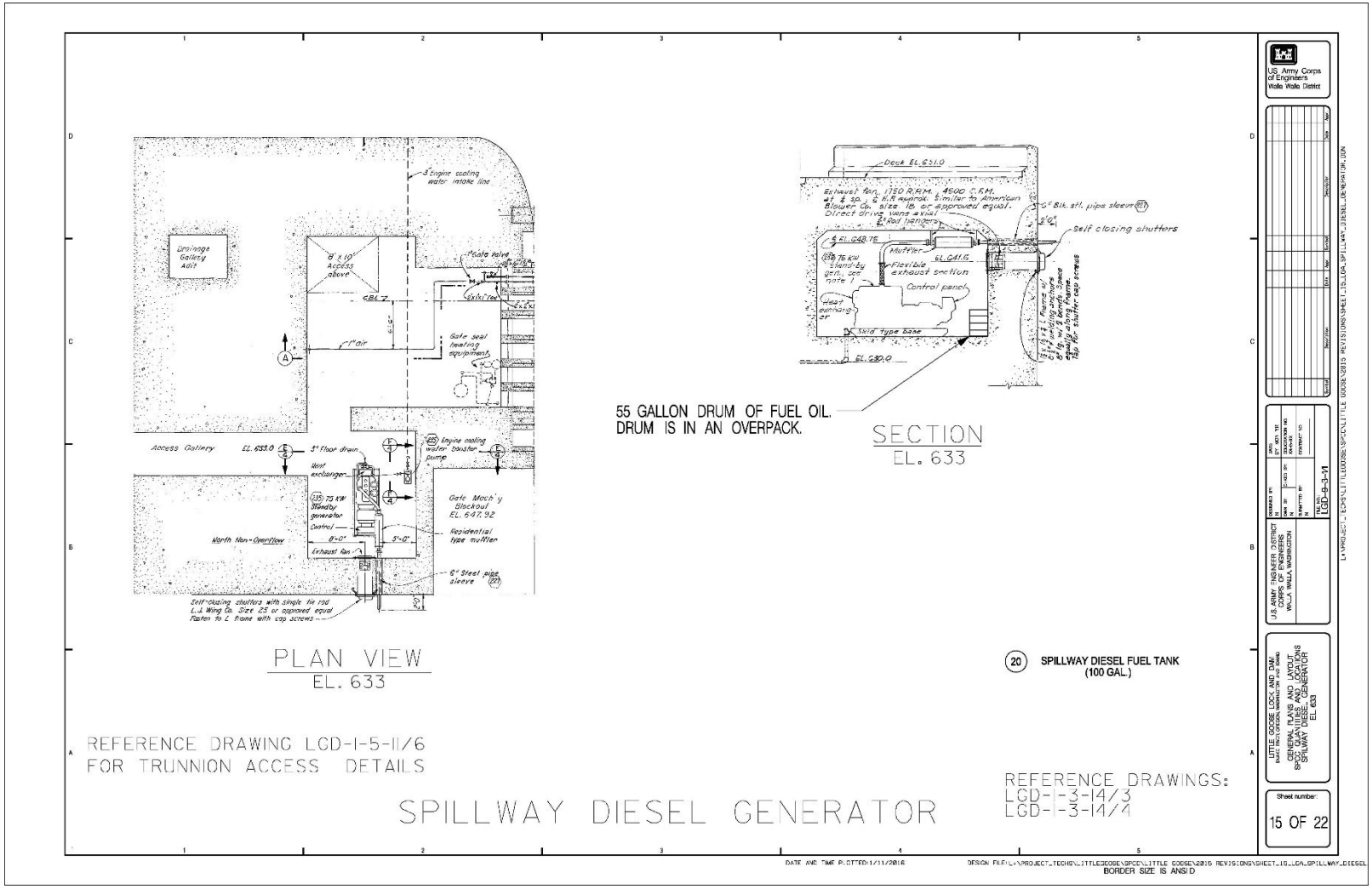


Figure 2.17 – Upstream Gate Oil Tank

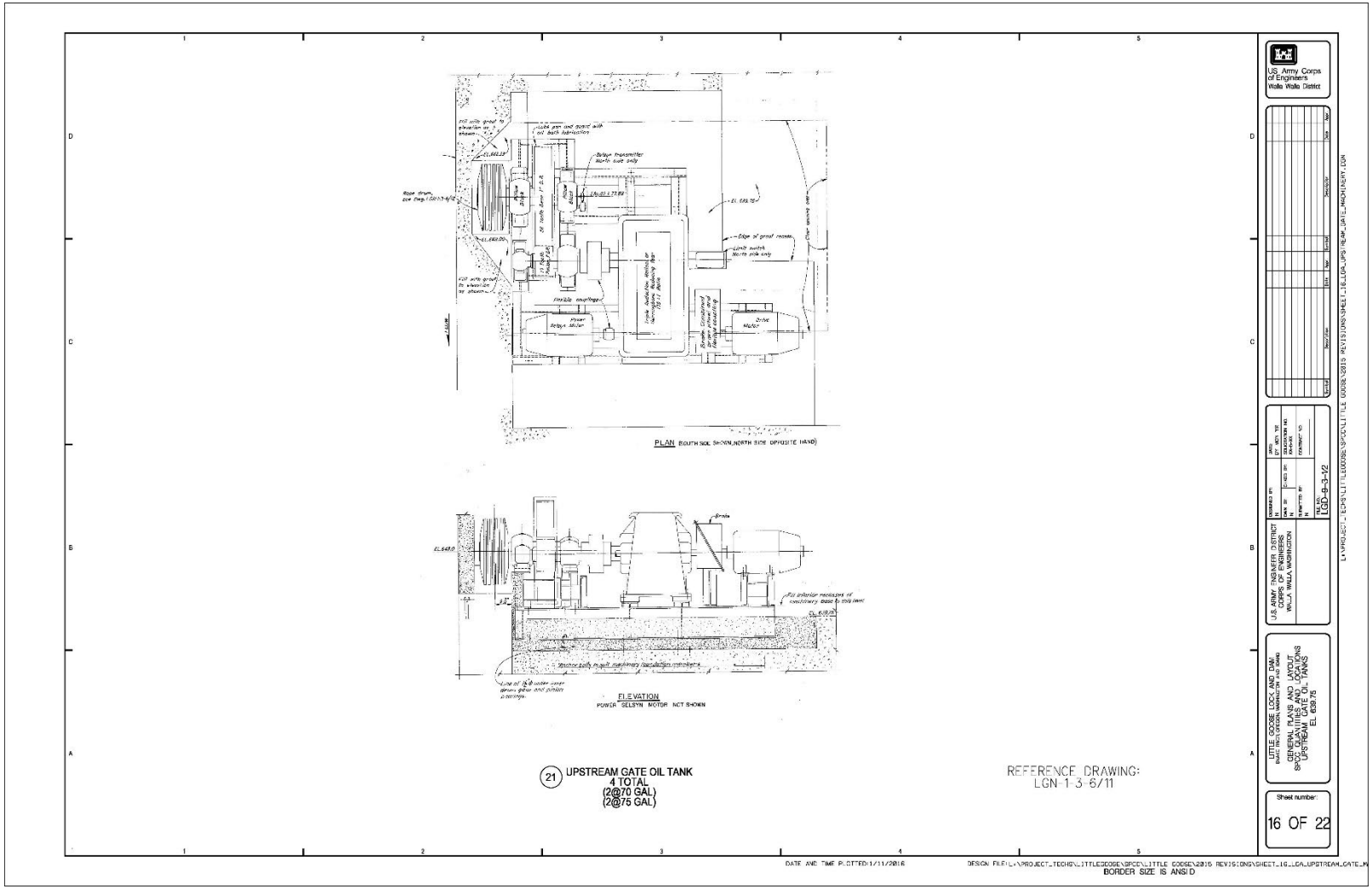


Figure 2.18 – Navigation Lock Valves

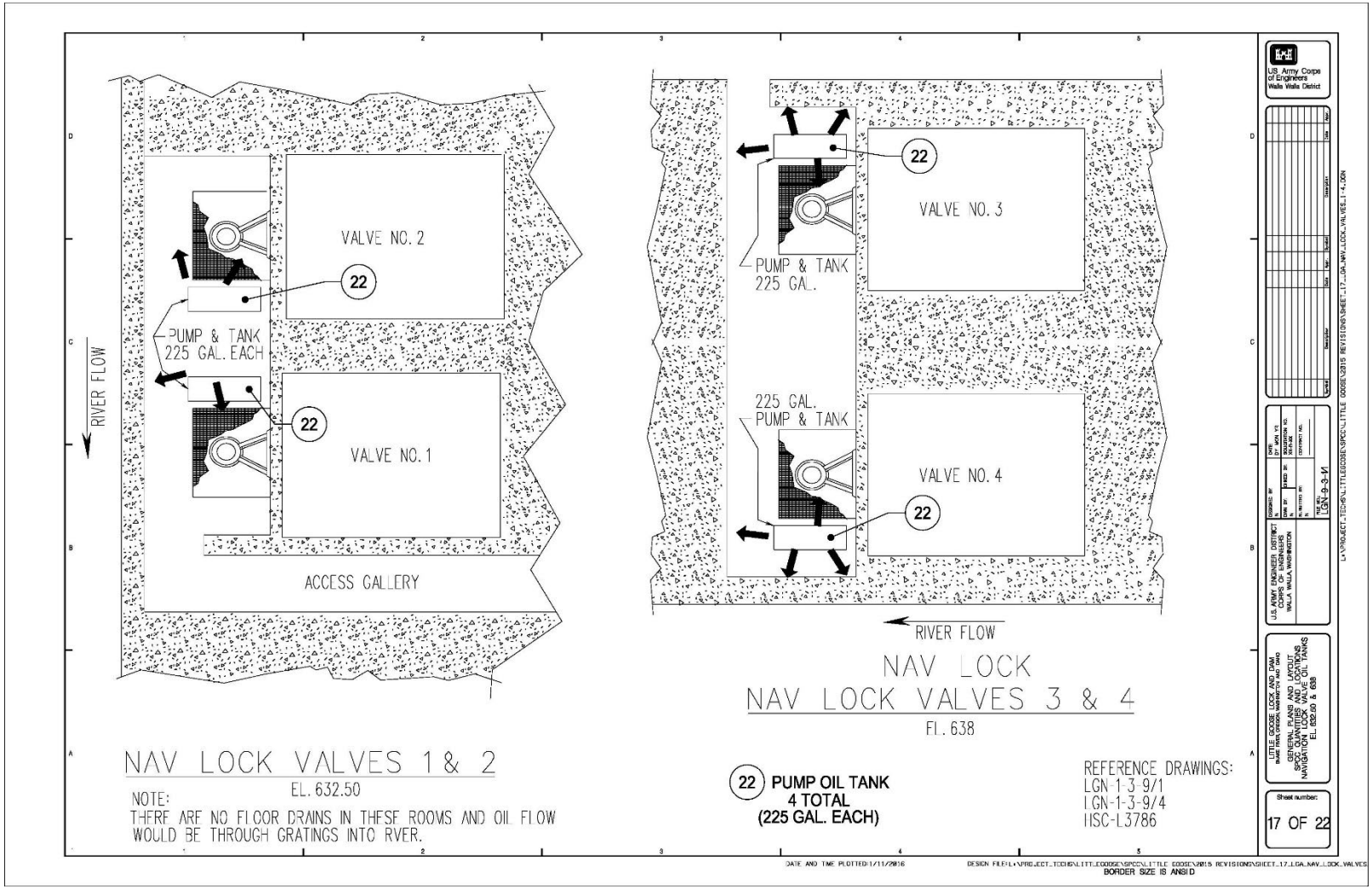


Figure 2.19 – Bascule Bridges

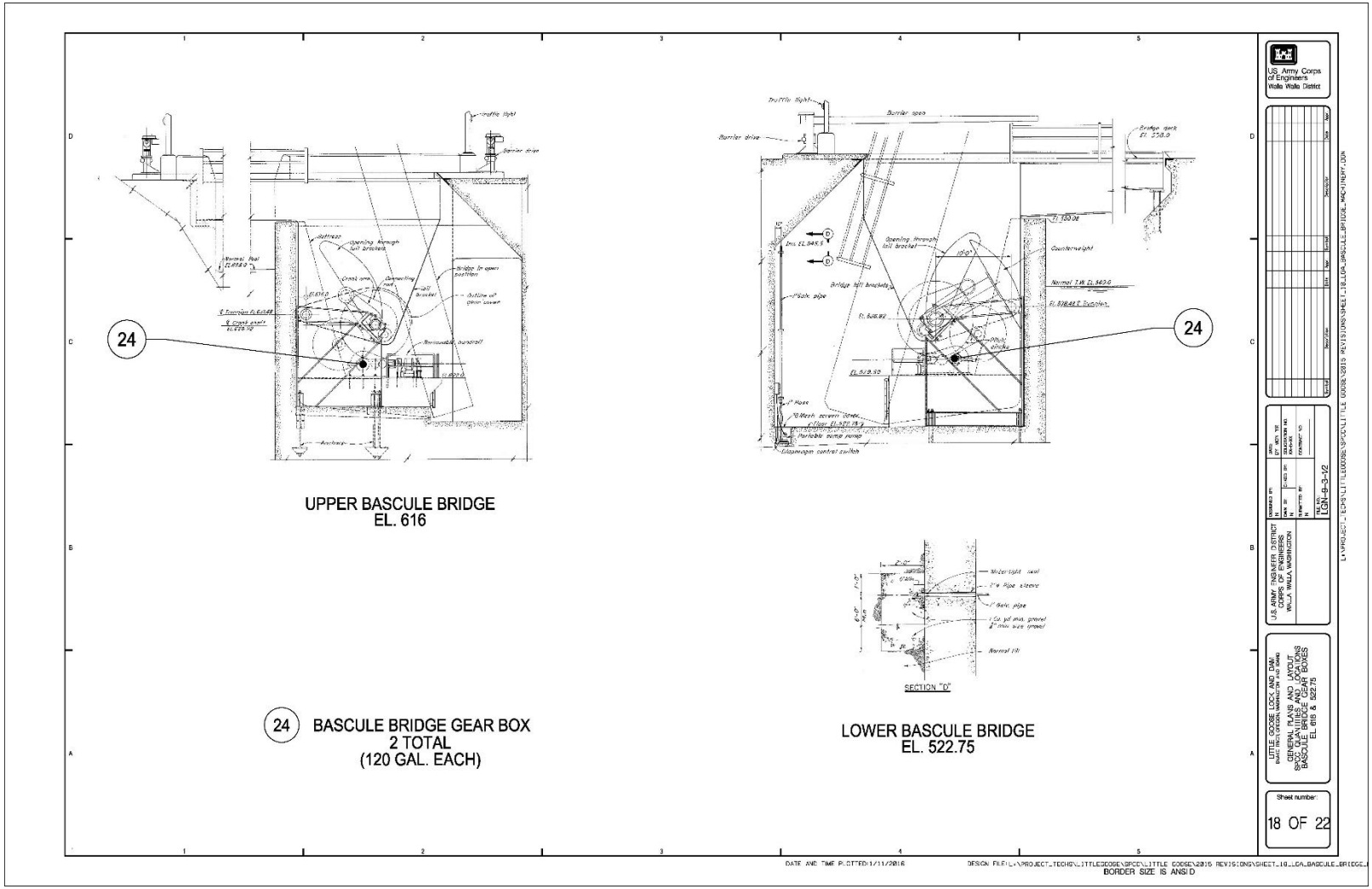


Figure 2.20 – Gate Pump Hydraulic Tanks

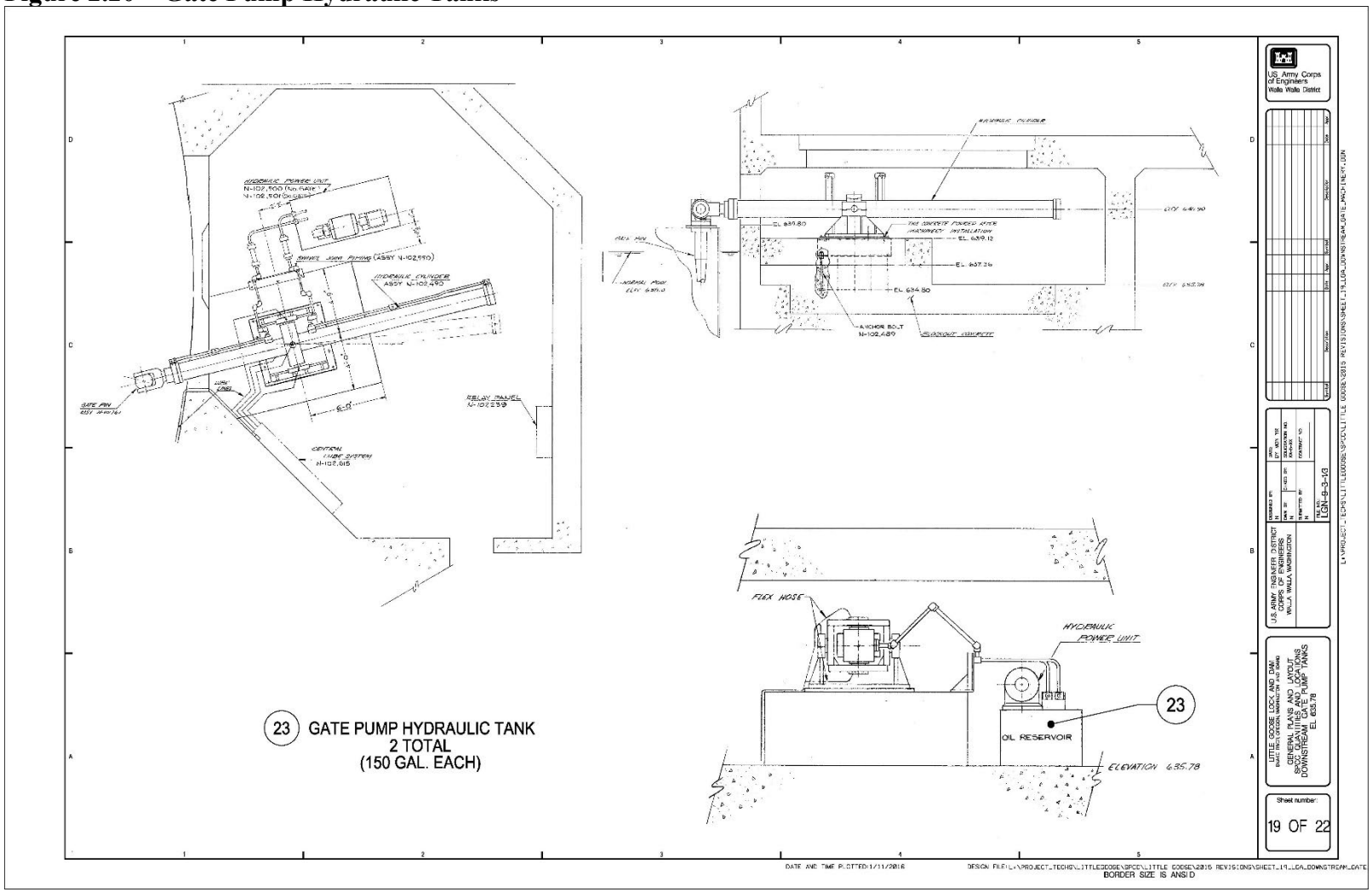


Figure 2.21 – Spillway Gate Gear Boxes

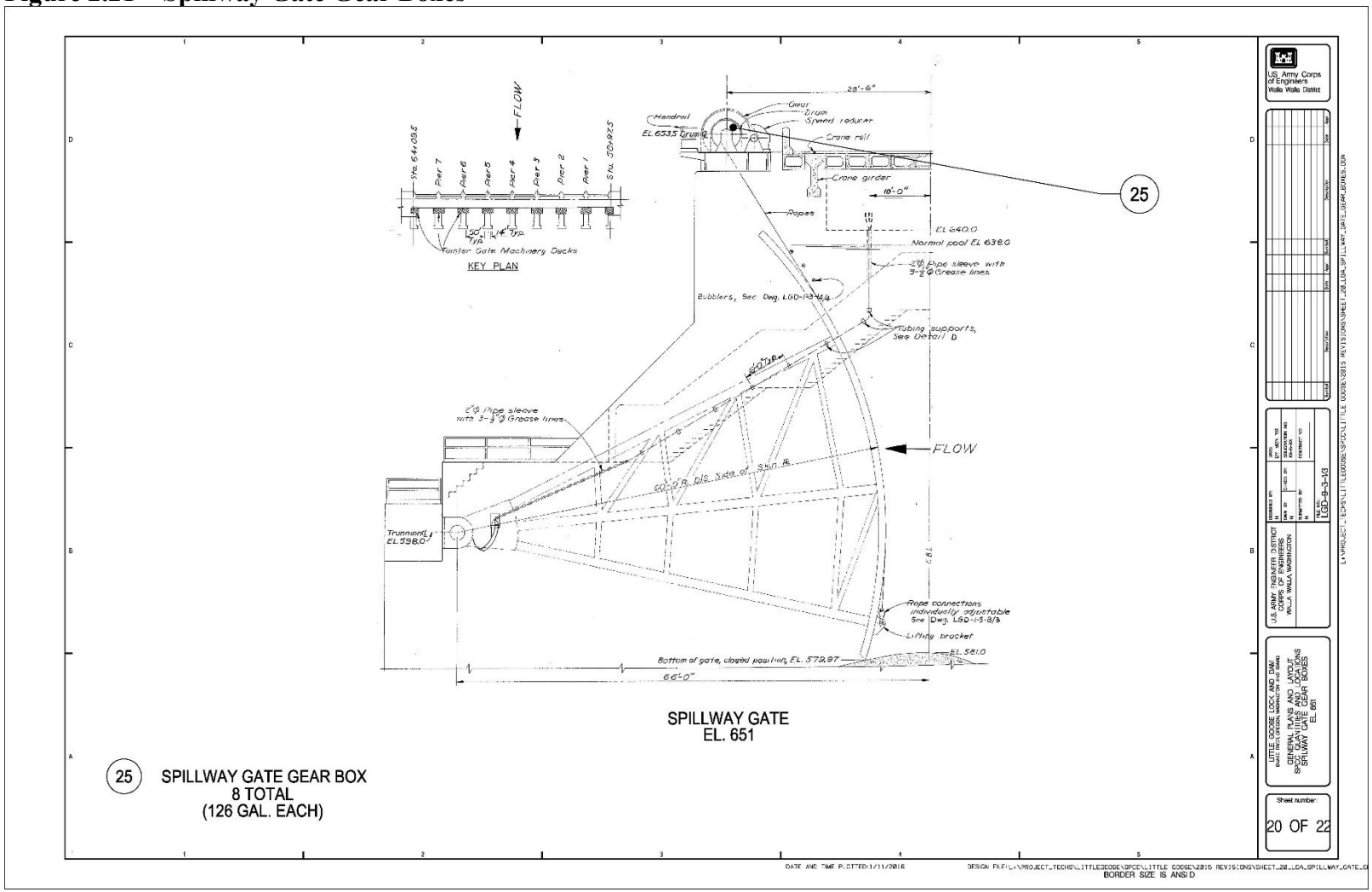


Figure 2.22 – Portable Tanks 1

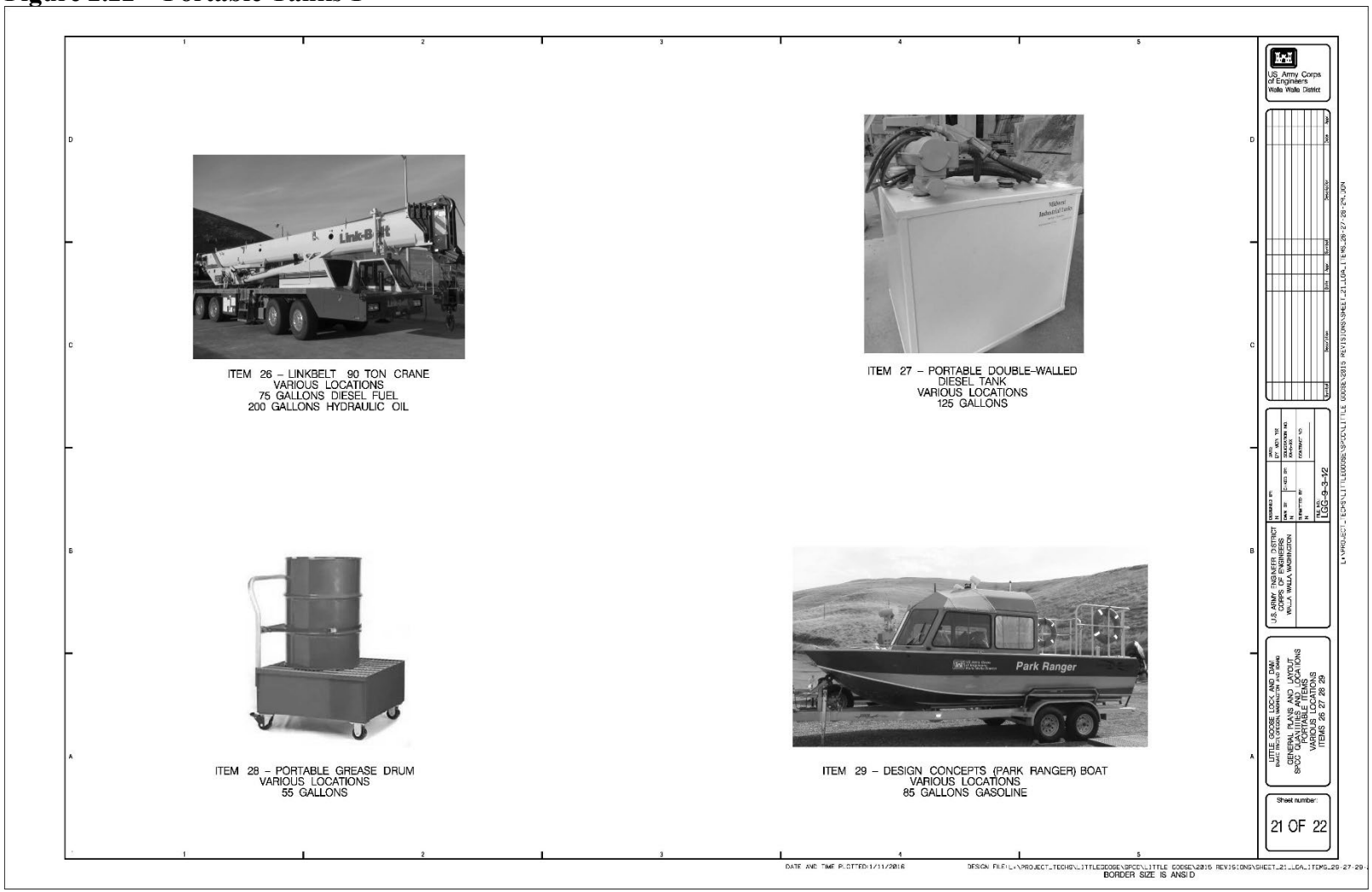
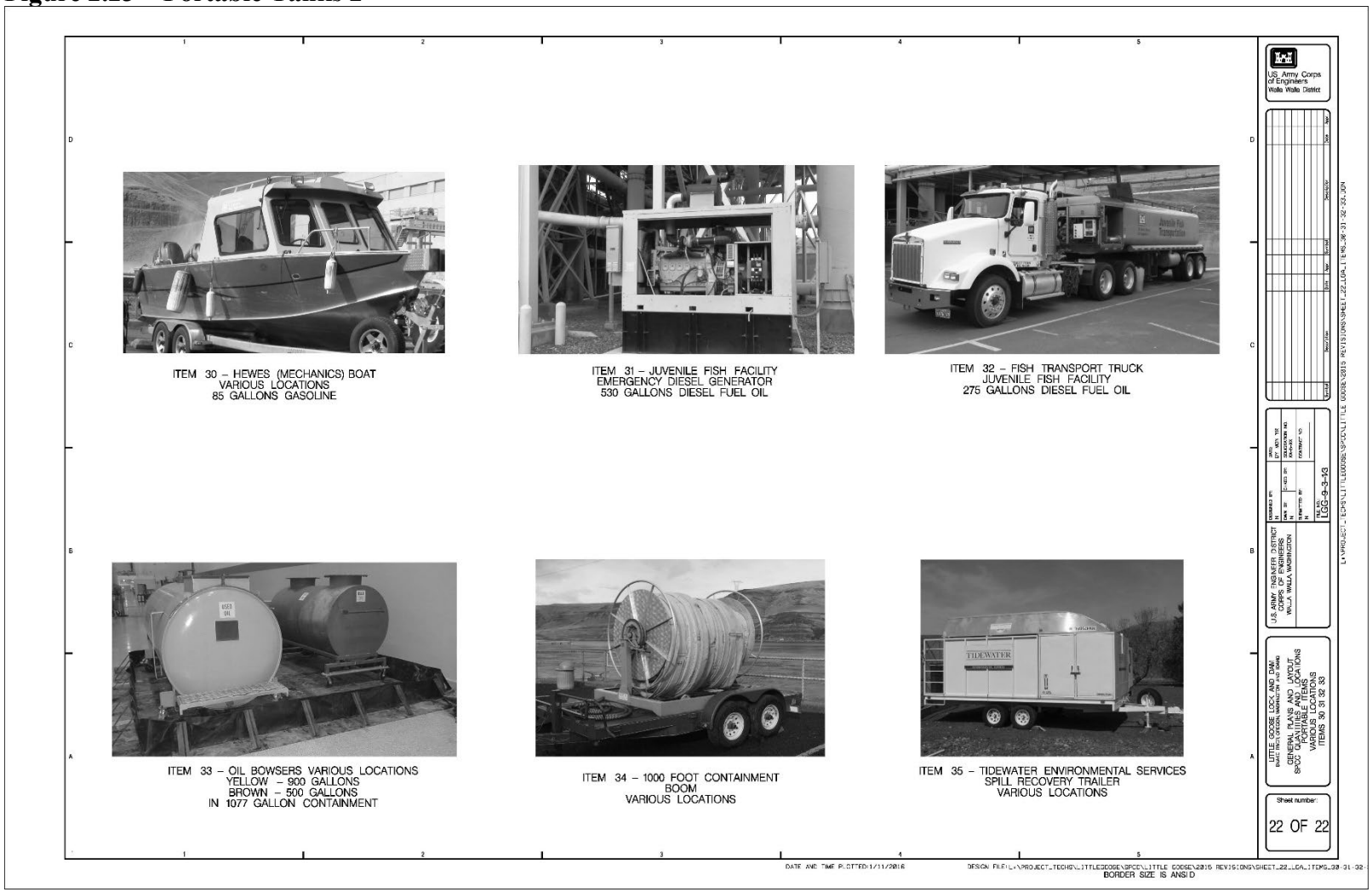


Figure 2.23 – Portable Tanks 2



3. POWERHOUSE

3.1 DESCRIPTION

The Powerhouse, located directly over the Snake River, holds 6 hydroelectric turbine systems capable of producing 135 megawatts each, for a total power-generating capacity of 810 megawatts. The Powerhouse holds two station service transformers, an Oil Storage Room, an emergency generator and tank, and a lube oil tank.

3.2 PETROLEUM CAPACITY

3.2.1 Equipment/Containers with Capacities of 55 Gallons or Greater

3.2.1.1 Oil-Filled Operating Equipment

A variety of oil-filled operating equipment is located in the Powerhouse. Most of the oil-bearing equipment consists of the six turbine generating units inside the Powerhouse and two interior transformers. Information about the capacities of the oil-filled operating equipment is presented in **Table 3.1**.

Transformers. Two Station Service Transformers are located in the Powerhouse interior on the fourth floor in separate rooms with vaulted containment at Elevation 558 feet. The first transformer (T01) is in transition to a spare transformer and holds 654 gallons of transformer oil (the replacement will hold 1,400 gallons and is the capacity listed in **Table 3.1**). The second transformer (T02) holds 1,150 gallons of transformer oil.

Turbines. There are 6 turbines and a breakdown of the storage capacity of each component is located in **Table 3-1**. A spill from any component will drain to the sump with the exception of the turbine hub, which will drain directly into the river. Each turbine hub has a maximum storage capacity of 2,260 gallons of oil. The various turbine components are separated such that a leak or other release would be isolated to that particular component. In the event of a leak, the pressure drop would activate an alarm in the powerhouse control room, which is manned 24 hours per day, and that turbine would be shut down and the leak isolated. Each turbine has an associated governor tank, a reservoir from which turbine oil is distributed to each component. Piping in the turbine system and in other mechanical equipment found throughout the powerhouse is of various size and length, and is generally single-walled.

Fish Attraction Pumps. The Fish Way Pump Room is located in the Powerhouse at elevation 505. There are three pumps in the room that adjust the water level in the south fish ladder collection channel or in the north fish ladder to create a current for the fish to find, attracting them to the appropriate passage way. Each attraction pump has a gearbox that holds up to 113 gallons of oil.

3.2.1.2 Storage Containers

Bulk oil storage containers are found throughout the Powerhouse, including the Oil Storage and Treatment Rooms, the Hazardous Material Collection Area, and the Gravity Lube Oil Tank. The Powerhouse emergency generator also has bulk storage containers associated with its operation. The containers in these areas are discussed below. Additional information about the containers is presented in **Table 3.1**.

Oil Storage Tanks. Oil storage tanks are located in the Oil Storage Room in the basement of the powerhouse (El. 498). The room contains four storage tanks: two 10,000-gallon turbine oil tanks and two 20,000-gallon transformer oil tanks. For each type of oil, one tank is designated for clean oil and the other for dirty oil. In the Oil Purification Room, there is a pump station located within the room that can deliver the oil in the clean tank to appropriate locations, or transfer used oil into and out of the dirty tank. The associated piping is generally copper, 2-1/2 inches in diameter, and runs through the Powerhouse walls. The fill ports for the turbine and transformer oil tanks are located at elevation 558 of the Powerhouse. The oil purification system purifies dirty oil for reuse and then transfers it to the clean oil tank. Oil from filters used in the oil-recovery process is placed into 55-gallon drums for recycling. The room also contains 55-gallon drums and smaller containers of various oils and greases used throughout the project.

Hazardous Waste Storage Area. The Hazardous Waste Storage Area is located within the Oil Purification Room and is where new and used oil is stored in 55-gallon drums and smaller containers until it is used or disposed of. Used oil is contained in 55-gallon drums on the east side of the room and is separated from the hazardous waste stored on the west side of the room.

Powerhouse Emergency Generator. To the immediate left of the Powerhouse exit, elevation 558, there is a 3,000-gallon, double-walled above-ground storage tank (AST) that stores fuel for the Powerhouse emergency generator. It has a second tank built around it for containment and it is located within a metal-curbed containment area next to a vehicle access way. The generator is located inside the Powerhouse at elevation 542, and single-walled piping runs from the main fuel tank through the wall to the inside of the Powerhouse building to a double-walled day tank which has a capacity of 600 gallons (containment capacity is 150% of tank volume).

Gravity Lube Oil Tank. This 500-gallon turbine oil tank is located inside the Powerhouse at elevation 618 in a self-contained concrete room with a containment capacity of 540 gallons. Oil is pumped from oil storage tanks on the 1st floor of the Powerhouse to the gravity lube tank. Oil from the gravity lube tank flows in a controlled way to the turbine units.

Piping. Oil is transferred on a non-routine basis between transformers, breakers, and storage tanks via in-house direct piping. Temporary connections are not required to transfer oil from the equipment to the storage tanks. Valves are provided at various locations, allowing for the isolation of piping at numerous locations. Single-walled piping connects the turbines and transformers to the oil storage tanks. The piping is generally copper, 2-1/2 inches diameter, and runs through the powerhouse walls. Fill ports for the turbine and transformer oil are located at El. 558. The remainder of the piping in the turbine system and in other mechanical equipment found throughout the powerhouse is of various size and length and is generally single walled.

3.2.2 Equipment/Containers Less than 55 Gallons (Potential Concern)

Many containers and equipment containing petroleum products in quantities less than 55 gallons are located throughout the Powerhouse. These include small oil-storage containers, gear reducers, motors, and small electrical components, and oil-containing equipment associated with cranes and elevators inside of the Powerhouse. Typically, the equipment requires minor maintenance and is replaced with new equipment at the end of its useful life. Possible spills involving such containers/equipment would be container tips or catastrophic equipment failure.

3.3 DRAINAGE PATHWAYS

3.3.1 Oil-Filled Operating Equipment

All floor drains on the interior of the Powerhouse lead to a 140,000-gallon sump in the Powerhouse basement. Powerhouse drainage typically is necessary for water leaks in the walls that are prevalent throughout the Powerhouse. Any oil spill or leak from most of the oil-filled operating equipment inside the Powerhouse would drain to the sump.

Transformers. A release from the 1,150-gallon (TO1) or 1,400-gallon (TO2) station service transformer tanks located inside the Powerhouse at elevation 558 would be contained in the individual rooms for the transformers. The drains in the rooms are protected with barrier cones (9 inches tall for TO1 and 8 inches tall for TO2) around the drains. The secondary containment of the room for transformer one (TO1) is 1,870 gallons and for transformer two (TO2) is 2,272 gallons

Turbines. A release from the power-generating turbines may discharge directly to the river if the release is from the turbine hub, which is positioned in the River. All other components above the turbine hub are located in the interior of the Powerhouse. The various turbine components are isolated such that a leak or other release would be separated to that particular component. A release from these turbine components and piping, including the governor sump and accumulator, would pass to an oil water separator and skimmer before draining to the 140,000-gallon sump via piping or floor drains. Containment is also available within the unit if a component is to leak or break within the turbine, the water level can be maintained in order to perform a clean-up.

Therefore, the oil can remain in the upper portion of unit and be contained before it makes it to the sump.

Fish Attraction Pumps. A release from a Fish Attraction Pump gearbox would flow towards the nearest floor drain and ultimately to the Powerhouse sump.

3.3.2 Bulk Storage Containers

Bulk storage containers are stored throughout the Powerhouse in rooms that are self-contained and do not drain to the basement sump or on adequate containment pallets which would prevent the migration of a release to the basement sump.

Oil Storage Room. There are four storage tanks in the Oil Storage Room: two 20,000 gallon transformer oil tanks and two 10,000 turbine oil tanks. The oil storage room has a removable conical drain plug in the drain that goes to the sump. This plug is always in position unless it must be removed to drain water that seeps into the room from the concrete. If water is drained, it is documented on the oil sump verification sheet. The concrete floor is recessed approximately 4 feet which acts as containment and the room has a capacity of 51,825 gallons for secondary containment.

Oil Purification Room. The room contains 55-gallon drums of new and used oil and hazardous waste containers. The drain in the Oil Purification Room is permanently plugged. A release from one of the tanks in the room would be contained within the concrete room. The room has a capacity of 1,315 gallons for secondary containment.

Hazardous Waste Storage Area. Containers stored in the Hazardous Materials Collection Area on the 1st floor are stored on containment pallets. A release from one of these containers would drain to the containment pallet. Any spill that would occur outside of the containment pallets would also be contained with the use of an oil spill berm at the entrance of the room, as the oil purification room drain is permanently plugged, and the room acts as secondary containment for a spill. There is an additional storage area on the 3rd floor near the point of generation that contains 1 55 gallon drum of used oil from various work processes and 1 55 gallon drum of used grease from various processes. A release from one of these containers would drain to the containment pallet. Any spill that could occur outside the containment would eventually drain into a pipe that goes to the sump.

Powerhouse Emergency Generator. The main 3,000-gallon fuel tank associated with the Powerhouse emergency generator is located within a metal-curbed containment area next to a vehicle access way. In addition, a ‘doghouse” has been built over the top of the tank which is essentially a second tank built around the fuel tank and any overflow from the tank would leak back into the secondary containment. The 600-gallon day tank in the downstream gallery on the generator floor is double-walled and has an indicator for leakage. An unlikely leak from the day tank would flow into the secondary containment that has a 150% capacity.

Gravity Lube Oil Tank. A release from this 500-gallon turbine oil tank would be contained in the concrete room in which it is located (containment capacity of 540 gallons).

Piping. Single-walled piping connects the turbines and transformers to the oil storage tanks. The piping is generally copper, 2-1/2 inches in diameter, and runs through the powerhouse walls. A spill from piping that is not double walled or within vaulted containment rooms will flow towards floor drains and eventually reach the Powerhouse sump.

3.4 POTENTIAL SPILL SCENARIOS

There are many scenarios that could lead to a release of oil at the Powerhouse. The following are descriptions of the most likely spill scenarios that could occur. Powerhouse spill scenarios include the following:

- Petroleum transfers associated with routine maintenance of equipment.
- Leaks from valve packing and pipes.
- Failures of the turbine oil system piping and associated components.
- Turbine hub seal failures.
- Failure of pipe connections.
- Tipping over an open oil-storage container.
- Disconnection of a hose or piping associated with an oil-purification unit while it is processing oil.
- A perforation in the piping of the turbine oil cooler system leak could result in a leak directly to the River via the Cooling Water System.
- Catastrophic failure of oil-containing equipment or bulk storage containers.

Table 3.2 provides more general information on spill scenarios, spill routes, and containment methods for the oil-containing equipment and containers in the Powerhouse. Spill scenarios are presented in the order of likelihood with the most likely scenario presented first and the least likely scenario presented last. Spill response measures for the Powerhouse oil-containing equipment are summarized in **Table 3.1**.

3.5 SPILL PREVENTION SYSTEMS

All oil-containing equipment in the Powerhouse is regularly maintained and inspected in accordance with the Preventative Maintenance schedule established for each piece of equipment. Operational procedures are also in place to minimize spills related to human error and equipment failure. Additionally, oil-filled equipment and storage containers are constructed of steel and stored at ambient temperature and pressure which is compatible with petroleum products thereby minimizing the potential of a release as a result of a catastrophic failure.

Oil Water Separator.

Leakwise© Skimmer System

3.5.1 Oil-Filled Operating Equipment

The transformers, turbines, and fish attraction pumps all meet the definition of oil-filled operational equipment in that the oil is present solely to support the function of the equipment. Oil-filled operational equipment is not subject to the bulk-storage container requirements specified in 40 CFR 112.8(c), 112.9(c), and 112.12(c), but is subject to the general requirements of 40 CFR 112.7.

Section 112.7(c)(1) of the federal SPCC regulations allows for active secondary containment in the form of sorbent materials as an alternative to passive containment; ample spill response supplies, including sorbent materials and drain covers, are stored and readily available in the areas where this equipment is located. Potential release scenarios are also addressed by regular, scheduled maintenance, and inspection of these oil-bearing systems.

In addition, the SPCC regulations (40 CFR 112.7(d)) require that if reasonable engineering controls cannot be constructed, the Project will produce an oil spill contingency plan following the provisions of 40 CFR 109. The USACE shall maintain an up-to-date spill response plan for all Walla Walla District Projects that satisfies those requirements. Spill response checklists and standard operating procedures (SOPs) are provided as **Appendix C**.

The USACE has also provided a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful, which is included as **Appendix F**.

In addition to the active secondary containment, inspection and monitoring programs, oil spill contingency plan, and written commitment letters, the Powerhouse sump below the generator floor acts to reduce the risk of release in the event of a spill. The sump has three covers that can be unbolted and removed, and the sump can then be viewed with flashlights to determine the presence of oil. The capacity of the Powerhouse sump is approximately 140,000 gallons. Oil absorbents can be deployed into the sump to recover oil.

Additionally, alarms are present on some of the oil-containing equipment in the Powerhouse that would alert operators to a potential release.

Transformers. The two Station Service Transformers (T01 and T02) located at El. 558 inside the Powerhouse. T01 contains 1,150 gallons of transformer oil and T02 will contain 1,400 gallons of transformer oil. A release from these transformers would be contained in their individual transformer rooms. The drains are not plugged but drain barriers are in place. The containment capacity of the room for T01 is 1,870 gallons and for T02 is 2,272 gallons.

Turbines. In the event of a leak in any component of a turbine, the pressure drop would activate an alarm in the Powerhouse control room which is manned 24 hours per day and that turbine would be shut down and the leak isolated.

It should be noted that it is impracticable to implement passive or active measures to address a leak from the oil cooler system associated with the bearing oil cooler system. Each bearing oil cooler passes cooling water (river water) through copper coils which are immersed in oil and then returns the discharge water to the river. The oil cooler system is an integral part of the operating turbine bearing and adding spill prevention measures to this system would require a significant alteration to the facility and may compromise the safety of the system. If a release were to occur from the oil cooler system, it would be addressed by the Walla Walla District Projects Spill Response Plan (**Appendix B**).

It is also impracticable to install secondary containment in relation to the turbine hubs. The turbine hubs are located directly beneath the generating units, suspended in the water column. The purpose of the turbine hubs is to rotate as water passes over the blades to produce power. The Powerhouse has 6 turbine hubs, and containment is impracticable for all of them. If a release were to occur from the turbine hubs, it would be addressed by the Walla Walla District Projects Spill Response Plan (**Appendix B**).

Fish Attraction Pumps. A release from the Fish Attraction Pumps would likely reach the river because there is no practical secondary containment for the pumps.

3.5.2 Bulk Storage Containers

Bulk storage containers are stored throughout the Powerhouse in rooms that are self-contained and do not drain to the basement sump or on containment pallets which would prevent the migration of a release to the basement sump.

Oil Storage Tanks. The Oil Storage Room contains the two 20,000-gallon transformer oil tanks and the two 10,000-gallon turbine oil tanks. It is constructed of concrete and has a secondary containment capacity of 51,825 gallons. The room has a drain that has a conical drain plug inserted. This room must have drainage as water seeps into the facility during weather changes as the concrete expands and contracts. A sump verification form is used when this room is drained of free-standing water. Single-walled piping connects the turbines and transformers to the oil storage tanks in the Oil Storage Room.

The Oil Purification Room contains new and used oil drums and hazardous waste containers and is made of concrete with no outlet for drainage. The containment capacity of the room is 1,315 gallons.

Hazardous Waste Storage Area. Containers stored in the Hazardous Waste Storage Area are stored on containment pallets. A release from one of these containers would drain to the containment pallet. Active measures would be utilized to prevent a release occurring during transport or active use from reaching a floor drain. In addition, the

Hazardous Waste Storage Area is within the Oil Purification Room, which is a concrete room with no outlet.

Powerhouse Emergency Generator. The 3,000-gallon main diesel tank associated with the Powerhouse emergency generator is a double-walled AST located within a concrete containment structure. The generator is inside the Powerhouse and the associated 600-gallon day tank is a double walled with 150% secondary containment.

Gravity Lube Oil Tank. A release from the Gravity Lube Oil Tank would be contained in the concrete room in which it is housed.

3.6 TRANSFER OPERATIONS

Transfer operations are conducted under the direct observation of at least two Project employees trained in the implementation of this plan to ensure that tanks and oil-filled operating equipment are not overfilled. Transfer operations will be discontinued if the employee must leave for any reason. Liquid levels in the governor oil sump and in the clean and dirty turbine oil storage tanks can be monitored during transfer operations by sight gages on the side of the tanks.

Oil is transferred on a non-routine basis between the storage tanks and the generator lubrication systems via in-house direct piping. Temporary connections are not required to transfer oil from the equipment to the storage tanks. Valving is provided at various locations, which allows for the isolation of piping at numerous locations.

Governor and turbine oil are stored near or in the generating units. This oil is contained within a closed piping system and is used for the operation of the units. Oil associated with the tap changers and fish attraction pumps is also contained within a closed piping system used for the operation of the units. If valves are incorrectly opened during operation, oil may be pumped onto the Powerhouse floor and eventually reach the Powerhouse sump. Maintenance personnel are trained in the use of valves to prevent accidental leakage.

More information about general transfer operations is provided in Section 9 and in **Appendix E**.

3.7 INSPECTIONS & MAINTENANCE

All oil-containing equipment in the Powerhouse is regularly maintained and inspected in accordance with the Preventative Maintenance schedule established for each piece of equipment. Regular visual inspections are conducted, and testing is performed in accordance to industry standards. The inspection schedule for oil-containing equipment in the Powerhouse is presented in **Table 3.1**. Additional details regarding inspection and maintenance of oil-containing equipment and containers are provided in Section 8. A list of inspection checklists for all of the oil-containing equipment and storage containers at the facility is provided in **Appendix D**.

Table 3.1 - Powerhouse Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Oil-Filled Operating Equipment							
Fish Pumps	Pump # 1	Powerhouse (El. 505)	Gear Oil	**113 gallons each**	None	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Pump # 2						
	Pump # 3						
Lower Guide Bearings	Unit # 1	Powerhouse (El. 542)	Turbine Oil	**450 gallons each**	Yes		
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Turbine Governor Sump Tank	Unit # 1			**3,020 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4			**3,400 gallons each**			
	Unit # 5						
	Unit # 6						
Turbine Hub	Unit # 1			**2,260 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Turbine Governor Accumulator Oil Tank	Unit # 1	Powerhouse (El. 558)		**3,680 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4			**5,520 gallons each**			
	Unit # 5						
	Unit # 6						
Turbine Thrust Bearing	Unit # 1			**2,500 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						

Table 3.1 - Powerhouse Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Upper Guide Bearing	Unit # 1	Powerhouse (El. 558)	Turbine Oil	**170 gallons each**	Yes	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Turbine Guide Bearing	Unit # 1			**100 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Transformers	TO1		Transformer Oil	**1,150 gallons**			
	TO2			**1,400 gallons**			
Storage Containers							
Oil Storage Room	Clean Lube Oil	Powerhouse (El. 498)	Turbine Oil	**10,000 gallons each**	Yes	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Dirty Lube Oil						
	Clean Trans Oil		Transformer Oil	**20,000 gallons each**			
	Dirty Trans Oil						
Emergency Diesel Generator AST	DT-1	Powerhouse (El.558)	Diesel	**3,000 gallons**	None		
Emergency Diesel Generator	DT-2			**600 gallons**			
Gravity Lube Oil Tank	NA	Powerhouse (El. 618)	Turbine Oil	**500 gallons**			

Table 3.1 - Powerhouse Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Portable Storage Containers							
Shop-built Drums	NA	Oil Storage Room (El. 494)	Used Oil, Non-Haz. Liquid Waste	Varies	None	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
Shop-built Drums	NA	Oil Purification Room (El. 498)	Oil, Solvent, Grease				
Shop-built Drums	NA	Haz. Waste Storage Area (El. 498)	Hazardous Waste				
Shop-built Drums	NA	Fish Attraction Gear Boxes (El. 505)	Oil, Non-Hazardous Liquid Waste				
Shop-built Tanks	Portable Used Oil Tank	Powerhouse (El. 558)	Used Oil	**900 gallons**			
Shop-built Tanks	Portable Used Oil Tank		Used Oil	**500 gallons**			
Shop-built Tanks	Portable Grease Tank		Grease	**55 gallons**			
Shop-built Tanks	Portable Diesel Tank		Diesel	**100 gallons**			
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**148,284 gallons**			

Table 3.2 – Potential Discharge Volumes and Flow Direction of Powerhouse Containers & Oil-Filled Operating Equipment

Type of Failure[5]	Potential Discharge Volume[6]	Maximum Discharge Rate	Flow Direction for Uncontained Discharge	Secondary Containment Method	Secondary Containment Capacity
Transformers TO1 & TO2					
Gasket joint (mechanical joint) leak	1 – 1,400 gal	< 1 gpm	Radial flow onto floor of Station Service Transformer Room.	Contained in room.	TO1 Room = 1,870 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous			TO2 Room = 2.272 gallons
Catastrophic failure	1,400 gal	Gradual to Instantaneous			
Main Units #1 – #6 – Turbine; Thrust, Lower Guide, and Turbine Guide Bearings					
Leaking fitting, seal, gasket, or pipe – Lower Guide Bearing	1 – 450 gal	15 gal/hr	Radial flow into turbine pit then to sump.	Active Measures	NA
Leaking fitting, seal, gasket, or pipe – Turbine Hub	1 – 2,260 gal	1 gal/hr	Radial flow into river	NA	
Leaking fitting, seal, gasket, or pipe – Turbine Governor Accumulator Tank	1 – 2,250gal	0.1 gal/hr	Radial flow into turbine pit then to sump.	Active Measures	
Leaking fitting, seal, gasket, or pipe – Turbine Thrust Bearing	1 – 2,500 gal	1 gal/hr	Radial flow into turbine pit then to sump.	Active Measures	
Leaking fitting, seal, gasket, or pipe – Upper Guide Bearing	1 – 170 gal	1 gal/hr	Radial flow into turbine pit then to sump	Active Measures	
Leaking fitting, seal, gasket, or pipe – Turbine Guide Bearing	1 – 100 gal	1 gal/hr	Radial flow into turbine pit then to sump	Active Measures	
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow into turbine pit then to sump.	Active Measures	
Catastrophic failure	170 gal – 2,260 gal	Gradual to Instantaneous	Radial flow into turbine pit then to sump or river	Active Measures	
Main Units #1 - #6 – Governor Sump					
Leaking fitting, seal, gasket, or pipe	1 – 2,250 gal	11 gal/hr	Radial flow onto floor to nearest drain then to sump	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous			
Catastrophic failure	2,250 gal	Gradual to instantaneous			

[5] Modes of failure presented in order of most likely to least likely.

[6] Potential Discharge Volume is per container or piece of equipment.

Table 3.2 – Potential Discharge Volumes and Flow Direction of Powerhouse Containers & Oil-Filled Operating Equipment

Type of Failure[5]	Potential Discharge Volume[6]	Maximum Discharge Rate	Flow Direction for Uncontained Discharge	Secondary Containment Method	Secondary Containment Capacity
Fish Attraction Pump #1 – #3 Gearboxes					
Leaking oil seal, fitting, or valve	1 – 113 gal	13 gal/hr	Radial flow onto floor and then to river	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	113 gal	Gradual to instantaneous			
Emergency Diesel Generator Day Tank					
Leaking pipe fitting	1 – 600 gal	1.25 gal/hr	Radial flow onto floor and then to sump	Double-walled tank	> 600 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	600 gal	Gradual to instantaneous			
Emergency Diesel Generator Main Fuel Tank					
Leaking pipe fitting	1 – 3,000 gal	0.2 gal/hr	Radial flow into annular space of double-walled tank	Steel containment berm	2,210 gallons
Leaking pipe outside of containment	1 – 3,000 gal	< 1 gpm	Radial flow onto concrete then into River	Active Measures	Not Applicable
Loss during petroleum transfer or maintenance	1 – 120 gal	< 62 gpm			
Loss during petroleum transfer or maintenance – truck side	1 – 120 gal	< 62 gpm	Radial flow into temporary containment berm established around truck	Temporary containment berm	> 120 gallons
Catastrophic failure	3,000 gal	Gradual to instantaneous	Radial flow into annular space of double-walled tank	Steel containment berm	2,210 gallons
Used Oil Tank 1					
Leaking pipe fitting	1 – 100 gal	0.2 gal/hr	Flow into secondary containment	Portable berm	1,077 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	900 gal	Gradual to instantaneous			
Used Oil Tank 2					
Leaking pipe fitting	1 – 100 gal	0.2 gal/hr	Flow into secondary containment	Portable berm	1,077 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	500 gal	Gradual to instantaneous			

Table 3.2 – Potential Discharge Volumes and Flow Direction of Powerhouse Containers & Oil-Filled Operating Equipment

Type of Failure[5]	Potential Discharge Volume[6]	Maximum Discharge Rate	Flow Direction for Uncontained Discharge	Secondary Containment Method	Secondary Containment Capacity
Transformer Oil Tank #1 & Transformer Oil Tank #2					
Leaking fitting, valve packing, or bolted connection	1 – 20,000 gal	38.5 gal/hr	Radial flow onto floor	Contained in room	51,825 gallons
Loss during oil purification	1 – 450 gal	45 gpm	Radial flow onto floor of Oil Purification Room.	Contained in Purification Room	467 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto floor.	Contained in room	51,825 gallons
Catastrophic failure	20,000 gal	Gradual to instantaneous			
Turbine Oil Dirty Tank & Clean Tank					
Leaking fitting, valve packing, or bolted connection	1 – 10,000 gal	25.7 gal/hr	Radial flow onto floor.	Contained in room	25,000 gallons
Disconnection of hose during oil purification	1 – 450 gal	45 gpm	Radial flow onto floor of Oil Purification Room.		467 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto floor.		25,000 gallons
Catastrophic failure	10,000 gal	Gradual to instantaneous			
Gravity Lube Oil Tank					
Leaking fitting, valve packing, or bolted connection	1 – 500 gal	5 gpm	Radial flow into secondary containment.	Contained in concrete room	540 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Gradual to instantaneous	Radial flow into secondary containment.		
Catastrophic failure	500 gal	Gradual to instantaneous	Radial flow into secondary containment.		
Oil Purification Room Used Oil Drums					
Spill during transfer operation	1 – 5 gal	Instantaneous	Radial flow onto floor.	Contained in room	> 55 gallons
Catastrophic failure or container tip over with lid off	55 gal	Gradual to instantaneous			
Oil Water Separator Used Oil Drums					
Spill during transfer operation	1 – 5 gal	Instantaneous	Radial flow into containment pallet.	Containment pallet	> 55 gallons
Catastrophic failure or container tip over with lid off	55 gal	Gradual to instantaneous	Radial flow into containment pallet or to floor drain and into sump.	Containment pallet; Active measures	> 55 gallons
Hazardous Waste Storage Area Oil Storage Drums					
Spill during transfer operation	1 – 5 gal	Instantaneous	Radial flow into containment pallet.	Containment pallet	> 55 gallons
Catastrophic failure or container tip over with lid off	55 gal	Gradual to instantaneous	Radial flow into containment pallet or to floor drain and into sump.	Containment pallet; Active measures	> 55 gallons

4. INTAKE DECK & SPILLWAY

4.1 DESCRIPTION

The Intake Deck is located on top of the Powerhouse. There are six main unit transformers located on the Intake Deck that contain more than 80,000-gallons of transformer oil. Also, on the Intake Deck is an emergency diesel-powered generator that can provide minimal power to the Spillway gates during a power outage. A Gantry Crane and eight gearboxes are also on the Intake Deck. Inside the Intake Deck, there are gate seal heaters that heat the oil in the gate gearboxes for opening the Spillway gates during periods of freezing temperatures.

4.2 PETROLEUM CAPACITY

4.2.1 Equipment/Containers with Capacities of 55 Gallons or Greater

Transformers. There are six (6) transformers used for the hydro-generated power. Transformers one through three can house 15,539 gallons of oil each. Transformers three through six can house 10,667 gallons of oil each. The oil storage capacity for all six transformers is approximately 80,000-gallons of transformer oil. The transformers are filled and emptied through piping that is connected to the powerhouse oil storage tank described in Section 3.3.2. The transformer tanks can be filled or drained from a pump station located in the oil storage room on the first floor of the powerhouse.

Intake Gate System. The Intake Gate System uses hydraulic cylinders for raising and lowering the head gates. Currently, three hydraulic cylinders are located in the intake gate slots and contain 390 gallons each (fully extended) of hydraulic oil. Intake gate cylinders are used to operate C slot intake gates. A & B slots do not use the intake gate cylinders. However, that are connected thru the VBS (Vertical Barrier Screen) to the ESBS slot. A 1,320-gallon hydraulic oil storage tank on the intake deck is used to fill and remove oil as the cylinders are being used. The cylinders are removed, as needed, for operation and maintenance.

Spillway Gate Gearboxes. There are eight (8) gear boxes located along the Spillway, elevation 651. Each gearbox contains 210-gallons of Mobile Gear 632 oil. There is no secondary containment for the gearboxes.

Gantry Crane. The Gantry Crane on the Intake Deck has a 378-gallon double-walled diesel tank associated with it. The crane is used when working over the Spillway to install intake gates, ESBSs, bulkheads, and spillway stoplog cylinders.

Mobile Linkbelt Crane. A 90-ton mobile crane is parked in various locations around the project. It has a 75-gallon diesel tank and a 200-gallon hydraulic oil tank.

Storage Containers. Petroleum storage containers on the Intake Deck include an AST containing 1,320-gallons of hydraulic oil for the emergency intake gates. In the North

Shore Diesel Generator Room there is a shop-built 100-gallon fuel tank associated with the diesel-powered Dam Gallery generator and a 55-gallon grease drum with secondary containment stored next to the emergency diesel generator.

Additional information regarding the oil-filled operating equipment and storage is presented in **Table 4.1**.

4.2.2 Equipment/Containers Less than 55 Gallons (Potential Concern)

There are eighteen Extended Submersible Barrier Screen (ESBS) that have gear boxes containing about 10 gallons of gear oil each that are contained in the bulkhead slot.

Oil-storage containers with less than 55-gallons capacity are not stored in or on the Spillway.

4.3 DRAINAGE PATHWAYS

Transformers. Six transformers sit on top of the roof of the powerhouse. Transformers 1 - 3 are contained in a concrete berm with a capacity of 6,692 gallons. Transformers 4 - 6 are contained in a concrete berm with a capacity of 9,750 gallons. Any loss of oil would be contained by the secondary containment system surrounding each transformer. The transformer tank levels are monitored in the control room and any sharp loss of oil pressure in the tanks would set off an alarm; an alarm would also be set off when the oil level in the tanks are low, after which the operators could isolate the water and product.

Intake Gate Hydraulic Cylinders. A release from these units is likely to reach the river. Secondary containment is not practical.

Gantry Crane. A release from the Gantry Crane's double-walled tank is unlikely but would probably go directly through grates on the Intake Deck and into the river. Periodic inspections and active measures will help prevent the leakage of a large volume of oil.

Spillway Gate Gearboxes. A release from the gearboxes is likely to reach the river. Secondary containment is not practical.

Storage Containers. The 1,320-gallon tank associated with the emergency intake gate hydraulic tank is a double walled tank. In the Northshore Diesel Emergency Generator Room, the Northshore emergency diesel generator has a 100-gallon tank that is housed in a sealed concrete structure that serves as containment; there is also a 55-gallon grease storage tank in the room. In the unlikely event that both the tanks and containment structures are breached, a release from either structure could reach the river.

New Emergency Diesel Generator on Spillway

The Gantry Crane has a double-walled 378-gallon diesel tank associated with it. If the double-walled containment is breached, the leak would drain to the river.

4.4 POTENTIAL SPILL SCENARIOS

Potential release scenarios associated with the oil-containing equipment and containers in the Spillway include leaks, transfer operation spills, and catastrophic failure.

Spill response measures for the Spillway oil-containing equipment and storage containers are summarized on **Table 4.1**. **Table 4.2** provides general information on spill scenarios and spill routes for the Spillway oil-containing equipment and storage containers. Spill scenarios are presented in the order of likelihood with the most likely scenario presented first and the least likely scenario presented last.

4.5 SPILL PREVENTION SYSTEMS

Transformers. A release from any of the six transformers located on the Intake Deck would be contained by the secondary containment berms surrounding each transformer. The concrete containment berm around transformers 1-3 has a 6,692 gallon capacity and the berm for transformers 4-6 has a capacity of 9,750 gallons. The transformer tank levels are monitored in the control room and any sharp loss of oil pressure in the tanks would set off an alarm, after which the operators could isolate water and oil product.

Intake Gate Hydraulic Cylinders and Spillway Gate Gearboxes. The Intake Gate Hydraulic Cylinders and Spillway Gate Gearboxes do not have secondary containment. This equipment meets the definition of oil-filled operational equipment in that the oil is present solely to support the function of the equipment. Oil-filled operational equipment is not subject to the bulk-storage container requirements specified in 40 CFR 112.8(c), 112.9(c), and 112.12(c), but is subject to the general requirements of 40 CFR 112.7.

Section 112.7(c)(1) of the federal SPCC regulations allows for active secondary containment in the form of sorbent materials as an alternative to passive containment; ample spill response supplies, including sorbent materials and drain covers, are stored and readily available in these areas. Potential release scenarios are also addressed by regular, scheduled maintenance and inspection of these oil-bearing systems.

In addition, the SPCC regulations (40 CFR 112.7(d)) require that if reasonable engineering controls cannot be constructed, the Project will produce an oil spill contingency plan following the provisions of 40 CFR 109. The USACE shall maintain an up-to-date spill response plan for all Walla Walla District Projects that satisfies those requirements. The most recent version of the Walla Walla District Projects Spill Response Plan is provided as **Appendix B**. Spill response checklists and standard operating procedures (SOPs) are provided as **Appendix C**.

The USACE has also provided a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful, which is included as **Appendix F**.

The remaining storage containers in the Intake Deck area have secondary containment. The area surrounding each is frequently inspected to assess presence of leaks from the tanks.

Additionally, oil-filled equipment and storage containers are constructed of steel and stored at ambient temperature and pressure which is compatible with petroleum products. All oil-containing equipment and storage containers are regularly maintained and inspected in accordance with the Preventative Maintenance schedule established for each piece of equipment. Operational procedures are also in place to minimize spills related to human error and equipment failure.

4.6 TRANSFER OPERATIONS

When the Spillway Emergency Diesel Generator requires refueling, a job specific work order is created and the mechanical crew is assigned to fill the tank with a mobile fuel oil storage tank. More information about general transfer operations is provided in Section 7.

4.7 INSPECTIONS & MAINTENANCE

All oil-containing equipment and containers on the Dam/Spillway are regularly maintained and inspected in accordance with the Preventative Maintenance schedule established for each piece of equipment. Regular visual inspections are conducted, and testing is performed in accordance with industry standards. The inspection schedule for oil-containing equipment and storage containers in the Spillway is presented in **Table 4.1**. Additional details regarding inspection and maintenance of oil-containing equipment and containers are provided in Section 8. A list of inspection checklists for all of the oil-containing equipment and storage containers at the facility is provided in **Appendix D**, presented in order of frequency required and reference where to find the inspection checklist in the on-line FEM Maintenance system.

Table 4.1 - Intake Deck Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Oil-Filled Operating Equipment							
Main Unit Transformers	Unit # 1	Intake Deck (El. 651)	Transformer Oil	15,539 gallons each	Yes	Monthly Visual Inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Unit # 2						
	Unit # 3						
	Unit # 4			10,667 gallons each			
	Unit # 5						
	Unit # 6						
Intake Gate Hydraulic Cylinders	1		Hydraulic Oil	390 gallons each	None		
	2						
	3						
Gear Boxes	GB-1	Spillway Gate (El. 651)	Mobile Gear 632	210 gallons each			
	GB-2						
	GB-3						
	GB-4						
	GB-5						
	GB-6						
	GB-7						
	GB-8						
Storage Containers							
Kenix Gantry Crane Fuel AST	IC-1	Intake Deck (El. 651)	Diesel	378 gallons	None	Monthly Visual Inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
Mobile Crane	90-Ton Linkbelt	Various Locations	Diesel	75 gallons			
			Hydraulic Oil	200 gallons			
Emergency Intake Gates	AST	Intake Deck (El. 651)	Hydraulic Oil	1,320 gallons			
Spillway Generator	NA	North Shore Diesel Generator Room	Diesel	100 gallons			
Shop-built Tank	NA		Grease	55 gallons			
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**83,596 gallons**			

Table 4.2 – Potential Discharge Volumes and Flow Direction of Spillway Containers & Oil-Filled Operating Equipment

Type of Failure[7]	Potential Discharge Volume[8]	Maximum Discharge Rate	Flow Direction for Uncontained Discharge	Secondary Containment Method	Secondary Containment Capacity
Main Unit Transformer					
Leaking pump seal or fitting	1 – 15,539 gal	7 gal/hr	Radial flow into concrete containment berm	Concrete containment berm	6,692 – 9,750 gallons
Loss during oil transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto concrete driveway and into the River.		
Catastrophic failure	15,539 gal	Gradual to Instantaneous	Radial flow into concrete containment berm		
Intake Gate Hydraulic Cylinders					
Leaking pump seal or fitting	1 – 390 gal	7 gal/hr	Radial flow into River	None	NA
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	390 gal	Gradual to Instantaneous			
Gear Boxes					
Leaking pump seal or fitting	1 – 210 gal	7 gal/hr	Radial flow into River	None	NA
Loss during oil transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	210 gal	Gradual to Instantaneous			
Gantry Crane Fuel AST					
Leaking pump seal or fitting	1 – 20 gal	7 gal/hr	Radial flow into rupture basin	Rupture basin	~400 gallons
Loss during oil transfer or maintenance	1 – 5 gal	Instantaneous	Radial flow onto intake deck	Active measures	NA
Catastrophic failure	378 gal	Gradual to Instantaneous	Radial flow into containment structure	Secondary containment structure	~400 gallons
Emergency Intake Gate AST					
Leaking pump seal or fitting	1 – 1,320 gal	7 gal/hr	Radial flow onto Intake Deck and then into River	Active measures	NA
Loss during oil transfer or maintenance	1 – 5 gal	Instantaneous	Radial flow onto intake deck		
Catastrophic failure	1,320 gal	Gradual to Instantaneous	Radial flow onto Intake Deck and then into River		

[7] Modes of failure presented in order of most likely to least likely.

[8] Potential Discharge Volume is per container or piece of equipment.

Table 4.2 – Potential Discharge Volumes and Flow Direction of Spillway Containers & Oil-Filled Operating Equipment					
Type of Failure[7]	**Potential Discharge Volume[8]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Spillway Emergency Generator					
Leaking pipe or valve packing	1 – 100 gal	0.2 gal/hr	Radial flow into emergency generator container structure.	Double-walled Tank	>100 gallons
Tank overfill	1 – 80 gal	< 62 gpm			
Truck-side fuel transfer – Accidental disconnect of fueling hose	1 – 10 gal	< 62 gpm	Radial flow onto roadway where it would flow east/west towards the River.	Temporary Containment Berm	> 10 gallons
Tank Failure	100 gal	Gradual to Instantaneous	Radial flow into annular space of double-walled tank.	Double-walled Tank	>100 gallons
90-Ton Linkbelt Crane (Hydraulic Oil)					
Leaking pump seal or fitting	1 - 20 gal	0.2 gal/hr	Onto ground	Active Measures	Not Applicable
Loss during oil transfer or maintenance	1 – 5 gal	5 gal/min	Into portable containment berm	Portable Containment Berm	>200 gallons
Catastrophic failure	200 gal	Gradual to Instantaneous	Onto ground	Active Measures	Not Applicable
90-Ton Linkbelt Crane (Diesel)					
Leaking tank seal or fitting	1 – 20 gal	0.2 gal/hr	Onto ground	Active Measures	Not Applicable
Loss during fuel transfer or maintenance	1 – 5 gal	5 gal/min			
Catastrophic failure	75 gal	Gradual to Instantaneous			
Grease Drum near Emergency Generator					
Spill During Transfer Operation	1 – 5 gal	Gradual	Radial flow into containment pallet	Containment Pallet	55 gallons
Catastrophic failure or container tip over with lid off	1 – 55 gal				

5. NAVIGATION LOCK

5.1 DESCRIPTION

The Navigation Lock is located next to the Powerhouse on the south shore of the Snake River. The Navigation Lock includes controls for the Miter Gate as well as several small oil tanks. The controls for the Navigation Lock are hydraulic oil systems with reservoirs of differing capacities. The quantities located within equipment consist of gearboxes and lubricating and hydraulic systems.

5.2 PETROLEUM CAPACITY

5.2.1 Equipment/Containers with Capacities of 55 Gallons or Greater

The Miter Gate has two 150-gallon pump tanks each containing hydraulic oil. Also, there are four Navigation Lock valves that each contain 90 gallons of hydraulic oil. There are four additional gear oil tanks for the tainter gate system for the Navigation lock; two contain 70 gallons each of Mobile 629 gear oil and the other two contain 95 gallons each of Mobile 632 gear oil.

The Bascule Bridge contains two gear boxes, each containing 120-gallons of Mobile 632 gear oil.

Additional information regarding the Navigation Lock oil-filled operating equipment is presented in **Table 5.1**.

5.2.2 Equipment/Containers Less than 55 Gallons (Potential Concern)

There are no pieces of equipment or containers that contain more than 55 gallons of oil.

5.3 DRAINAGE PATHWAYS

A release from the Miter Gate pump tanks would spill into the Snake River. A release from the hydraulic system from the locks would also spill into the river. Secondary containment is not practical in either instance.

A release from the Bascule Bridge gear boxes would be contained within a concrete room that acts as secondary containment and would easily contain the full volume of all the gear boxes.

5.4 POTENTIAL SPILL SCENARIOS

There are many different scenarios that could lead to a release of oil at the Navigation Lock. Releases of oil from the navigation lock gallery tanks, gate tanks, or gate pumps could discharge directly to the river.

The spill scenarios associated with oil containing equipment and containers at the Navigation Lock include the following:

- Petroleum transfers associated with routine maintenance of equipment.
- Failures of the system piping, valves, seals, and associated components.
- Catastrophic failure of oil-containing equipment.

Table 5.2 provides general information on spill scenarios and spill routes for the Navigation Lock oil-containing equipment. Spill scenarios are presented in the order of likelihood with the most likely scenario presented first and the least likely scenario presented last. Spill response measures for the Navigation Lock oil-containing equipment and containers are summarized on **Table 5.1**.

5.5 SPILL PREVENTION SYSTEMS

Oil-containing equipment or containers at the navigation lock area are inspected on a monthly and annual basis. There is a spill kit located on the north side of the Navigation Lock that is high visibility.

In addition, the SPCC regulations (40 CFR 112.7(d)) require that if reasonable engineering controls cannot be constructed, the Project will produce an oil spill contingency plan following the provisions of 40 CFR 109. The USACE shall maintain an up-to-date spill response plan that satisfies those requirements for all Walla Walla District Projects as necessary. The most current Walla Walla District Projects spill response plan is provided as **Appendix B**. Spill response checklists and standard operating procedures (SOPs) are provided as **Appendix C** and equipment and storage container inspection checklists are included as **Appendix D**.

The USACE has also provided a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful, which is included as **Appendix F**.

5.6 TRANSFER OPERATIONS

Transfer operations are conducted under the direct observation of two Project employees trained in the implementation of this plan to ensure that tanks and oil-filled operating equipment are not overfilled. Transfer operations will be discontinued if the employee must leave for any reason.

Hydraulic oil containing equipment and storage containers are not filled on a regular basis. During normal operation, some oil is periodically added to the hydraulic drain and fill valve cylinders. When the drain/fill valves operate, oil from the hydraulic reservoir above the valve pit is automatically pushed into the system. The oil in these reservoirs periodically needs refreshing. If replacement of the oil in the Navigation Lock hydraulic systems becomes necessary, special operations would be designed by a contractor and approved by an engineer prior to replacement.

More information about general transfer operations is provided in Section 7.

When the maintenance plan requires oil to be changed out in a gearbox or hydraulic power unit, a work order will be generated in the Facilities and Equipment Maintenance (FEM) system. The FEM work order will describe the location, type of oil, and include a quantity transferred section to document oil transfers as part of the Oil Accountability Program (**Appendix H**).

5.7 INSPECTIONS & MAINTENANCE

All oil-containing equipment in the Navigation Lock is regularly maintained and inspected in accordance with the Preventative Maintenance schedule established for each piece of equipment. Regular visual inspections are conducted, and testing is performed in accordance to industry standards. The inspection schedule for oil-containing equipment in the Navigation Lock is presented on **Table 5.1**. Additional details regarding inspection and maintenance of oil-containing equipment and containers are provided in Section 8. An inspection checklist for all of the oil-containing equipment and storage containers at the facility is provided in **Appendix D**.

Table 5.1 - Navigation Lock Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Oil-Filled Operating Equipment							
Culvert Valve Pump Oil Tanks	1	Navigation Lock Valves (El. 632 and 638)	Hydraulic Oil	**90 gallons each**	None	Monthly Visual Inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	2						
	3						
	4						
Pump Tank-South Side	1	Miter Gate (El. 635)		**150 gallons each**			
Pump Tank-North Side	2						
Oil Tanks-South Side	Western Bull Gear	Navigation Lock-Upstream Gate (El. 639)	Mobile Gear 629	**70 gallons**			
	Western Gear Reducer		Mobile Gear 632	**95 gallons**			
Oil Tanks-North Side	Western Bull Gear		Mobile Gear 629	**70 gallons**			
	Western Gear Reducer		Mobile Gear 632	**95 gallons**			
Bascule Bridge	Upstream Gear Box	El. 523	Gear Oil	**120 gallons**			
	Downstream Gear Box	El. 616					
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**1,230 gallons**			

Table 5.2 – Potential Discharge Volumes and Flow Direction of Navigation Lock Oil-Filled Operating Equipment					
Type of Failure[9]	**Potential Discharge Volume[10]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Valve Pump Oil Tanks					
Leaking pump seal or fitting	1 – 90 gal	7 gal/hr	Radial flow into the river	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic Failure	90 gal	Gradual to Instantaneous			
Miter Gate Pump Tanks					
Leaking pump seal or fitting	1 – 150 gal	7 gal/hr	Radial flow onto Miter Gate Room floor	Miter Gate Room drains are plugged	>150 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic Failure	150 gal	Gradual to Instantaneous			
Navigation Lock Oil Tanks					
Leaking pump seal or hydraulic cylinder	1 – 95 gal	20 gal/hr	Radial flow into the river.	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 55 gal	Gradual to instantaneous			
Catastrophic Failure	95 gal	Gradual to Instantaneous			
Bascule Bridge Gear Boxes					
Leaking pump seal or hydraulic cylinder	1 – 120 gal	20 gal/hr	Radial flow into containment room	Containment in concrete room	>110%
Loss during petroleum transfer or maintenance	1 – 55 gal	Gradual to Instantaneous	Radial flow onto ground		
Catastrophic Failure	120 gal	Gradual to Instantaneous	Radial flow into containment room		

[9] Modes of failure presented in order of most likely to least likely.

[10] Potential Discharge Volume is per container or piece of equipment.

6. RESOURCE YARD AND VARIOUS ADDITIONAL OIL-CONTAINING EQUIPMENT OR STORAGE CONTAINERS

6.1 DESCRIPTION

The Resource Yard is located on the Southside of the dam about 300 feet from the river, in between the powerhouse and intake deck entrance to Little Goose Lock & Dam on the Columbia County side of the Snake River. Storage for spare transformers, a gasoline storage tank, and miscellaneous materials and vehicle fueling are the primary operations associated with the Resource Yard. The Juvenile Fish Monitoring Facility (JFF) is south of the Powerhouse and has a 530-gallon diesel emergency generator.

6.2 PETROLEUM CAPACITY

6.2.1 Equipment/Containers with Capacities of 55 Gallons or Greater

Resource Yard Storage. There is a 1,000-gallon gasoline storage AST. The spare transformer is stored in concrete secondary containment with a drain plug and a containment capacity of 110%. The 1,000-gallon gasoline AST has a steel secondary containment structure with a capacity of 110%.

Juvenile Fish Facility (JFF). The Juvenile Fish Monitoring Facility (JFF) is located on the Snake River's southern shoreline, just downstream from the navigation lock. The JFF consists of an elevated fish channel from the spillway to the outfall at the JFF and a fish ladder to provide a passage for fish attempting to swim upstream. Gear reducers exist within the fish ladder system. Each reducer contains a steel gearbox holding less than 55 gallons of lubricating oil. Miscellaneous small quantities of propane, cleaners, solvents, oils and greases are present inside the facility. In addition, an emergency 530-gallon diesel generator of single-walled construction serves the JFF.

There is a Flammable Materials Storage Building under the fish ladder, which stores small containers (less than 55 gallons) of used oil and hazardous waste. The building has no drains and all drums are stored on containment pallets.

Additional Equipment. Additional oil-containing equipment or containers stored throughout the facility includes a 125-gallon portable diesel fuel tank.

6.2.2 Equipment/Containers Less than 55 Gallons (Potential Concern)

There are small quantities of miscellaneous petroleum products that are housed in the Flammable Materials Storage Building. There is also storage of chlorine in the Resource Yard Building for use in the Well House.

6.3 DRAINAGE PATHWAYS

Spare Unit Transformer. A leak from the concrete containment for the 9,400-gallon spare transformer would pool outside the containment berm and then have to travel over dirt and gravel more than 300 feet to the river.

Gasoline AST. The 1,000-gallon AST is housed in a steel structure with at least 1,100 gallons of secondary containment. An unlikely spill outside of containment would pool on the ground and then have to travel over 300 feet across a dirt and gravel parking lot and road to the river.

JFF Emergency Generator. A spill from the 530-gallon tank for the emergency generator in the Juvenile Fish Facility is unlikely to reach the river because the tank is located more than 120 feet from a storm drain that would lead to the river.

Flammable Materials Storage Building. A release from the Flammable Materials Storage Building is unlikely. All oil containers within the building sit upon secondary containment pallets and a spill outside the pallets would be contained on the concrete floor of the building. No drums are stored outside unless they are on containment pallets for temporary use or for emergency additional storage or for staging for a disposal/recycling. A spill occurring outside the building is likely to pool close to the source of the spill or to migrate to a localized low spot in the topography. A large spill could potentially be transported by precipitation to the Snake River but would have to pass over more than 300 feet of dirt or paved areas, which is likely to prevent such long distance migration.

Portable Tanks. There is a 125-gallon portable diesel storage tank that is housed in various locations around the Project. A release form this tank could reach the river if it were to leak over the water or near the river. However, it is usually parked several hundred feet from the river which would prevent most spills from reaching the water.

6.4 POTENTIAL SPILL SCENARIOS

The spill scenarios associated with equipment and containers in the Resource Yard as follows:

- Petroleum transfers associated with fueling vehicles.
- Leaking containers.
- Tipping over an open oil-storage container.

Spill routes and response measures for the Resource Yard oil-containing equipment are summarized on **Table 6.1**. **Table 6.2** provides general information on spill scenarios and spill routes for the Resource Yard containers. Spill scenarios are presented in the order of likelihood with the most likely scenario presented first and the least likely scenario presented last.

6.5 SPILL PREVENTION SYSTEMS

All oil-containing storage containers are regularly maintained and inspected in accordance with the Preventative Maintenance schedule established for containers. Operational procedures are also in place to minimize spills related to human error and equipment failure. The spare transformer is housed in secondary containment as well as the 1,000-gallon gasoline storage tank.

All oil containers in the Flammable Materials Storage Building have secondary containment. Small containers sit on storage pallets that act as secondary containment. There are no drains in the building.

A spill in the JFF is unlikely because all oil containing equipment, including the 530-gallon tank for the emergency generator, is situated within a steel containment structure. If a release occurs outside of that containment structure, it is likely to reach the Snake River.

The 125-gallon portable storage tank is not secondarily contained and is single-walled. A release form this tank could reach the river if it were to leak over the water or near the river. However, it is usually parked several hundred feet from the river which would prevent most spills from reaching the water.

In the event that a spill occurs from storage containers while they are being actively transported to or from the Resource Yard, active measures will be used to prevent oil from migrating toward the River.

6.6 TRANSFER OPERATIONS

Transfer operations in the Resource Yard consist of vehicle refueling and servicing. More information about general transfer operations is provided in Section 7.

6.7 INSPECTIONS & MAINTENANCE

All oil storage containers in the Resource Yard are regularly maintained and inspected in accordance with the Preventative Maintenance schedule established. Regular visual inspections are conducted. The inspection schedule for storage containers in the Resource Yard is presented on **Table 6.1**. Additional details regarding inspection and maintenance of oil-containing equipment and containers are provided in Section 8. An inspection checklist for all of the oil-containing equipment and storage containers at the facility is provided in **Appendix D**.

Table 6.1 - Resource Yard, Fish Facility, and Bridge Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Oil-Filled Operating Equipment							
Spare Unit Transformer	SU-T	Resource Yard (El. 644)	Transformer Oil	**9,400 gallons**	None	Monthly Visual Inspections	Active Measures
JFF Emergency Generator	JFF-EG	Juvenile Fish Facility	Diesel	**530 gallons**			
Storage Containers							
Gasoline Storage AST	GT-1	Resource Yard (El. 644)	Gasoline	**1,000 gallons**	None	Monthly Visual Inspections	Active Measures
Portable Storage Containers							
Diesel Tank	NA	Resource Yard (El. 644)	Diesel	**125 gallons**	None	Monthly Visual Inspections	Active Measures
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**11,055 gallons**			

Table 6.2 – Potential Discharge Volumes and Flow Direction of Resource Yard Containers & Oil-Filled Operating Equipment					
Type of Failure[11]	**Potential Discharge Volume[12]**	**Maximum Discharge Rate**	**Uncontained Discharge Flow Direction**	**Secondary Containment Method**	**Secondary Containment Capacity**
Spare Transformer					
Leaking pipe or valve packing	1 – 9,400 gal	< 1 gpm	Radial flow into oil barrier storm drain	Active Measures	110%
Gasket joint (mechanical joint) leak	4,932 gal	411 gal/hr			
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto ground but unlikely to reach river.		
Catastrophic Failure	9,400 gal	Gradual to Instantaneous	Radial flow into oil barrier storm drain		
JFF Emergency Generator					
Leaking pipe or valve packing	1 – 5 gal	< 1 gpm	Radial flow into portable secondary containment.	Active Measures	Not Applicable
Tank Overfill	1 – 55 gal	Instantaneous			
Fuel Transfer – Accidental disconnect of fueling hose	1- 5 gal	5 gpm			
Tank Failure	530 gal	Gradual to Instantaneous			
Gasoline Storage AST					
Leaking pipe or valve packing	1 – 5 gal	< 1 gpm	Radial flow into secondary containment.	Steel berm	1,100 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	5 gpm			
Catastrophic Failure	1,000 gal				
Flammable Materials Storage Building					
Spill During Transfer Operation	1 – 5 gal	5 gpm	Radial flow onto building floor.	Active Measures	>200 gallons
Catastrophic failure or container tip over with lid off	1 – 55 gal	Instantaneous			
Catastrophic failure or container tip over with lid off	1 – 55 gal	Instantaneous			
Catastrophic failure or container tip over with lid off	1 – 55 gal	Gradual to Instantaneous			

[11] Modes of failure presented in order of most likely to least likely.

[12] Potential Discharge Volume is per container or piece of equipment.

7. FACILITY TRANSFER OPERATIONS

7.1 GENERAL

For all petroleum transfer operations at the Project, a plan specific to the transfer procedure that will occur must be developed prior to the commencement of transfer activities. At a minimum, the following steps will be followed to develop the specific transfer procedure:

1. Pre-planning.
2. Designation of an accountable (responsible) individual.
3. Assurance that the specific transfer procedure adequately covers the intended operation being performed and includes necessary contingency measures.
4. A back-check process will occur to ensure that more than one person is looking at the plan. The plan will be signed off by the reviewers.
5. Assurance that spill countermeasures are adequate and in place.
6. The response center (control room) is notified in advance and is aware of the operation as it is being performed.
7. A checklist will be prepared for each operation.
8. Documentation including the specific transfer procedure, checklists, and any other relevant documentation will be retained.
9. Annual review of the adequacy of the program.

Unless provided herein, specific transfer plans developed will be kept separately on file and updated as necessary for all transfer operations.

7.2 BURIED PIPING INSTALLATIONS

Buried piping that contains oil as defined in 40 CFR Part 112 does not exist at the Project.

7.3 ABOVEGROUND PIPING INSTALLATIONS

Aboveground piping at the Project is either confined to specific areas or within buildings. There are no overhead piping runs at the Project that cross roadways requiring warning to drivers.

Petroleum piping is primarily constructed of steel and varies in size ranging up to six inches in diameter. Piping carrying petroleum products between vessels is attached to the floor or walls with metal brackets[13], which are designed to minimize abrasion and corrosion and allow for piping to expand and contract. In some instances, piping goes through walls and is supported by the structure of the wall. Piping is visible and easily inspected along its entire length except for locations where it passes through concrete

[13] The metal brackets were selected and installed in accordance with *Federal Specification, FS W-H-171, Hangers and Support, Pipe*.

walls. Operators observe piping systems during their frequent rounds and immediately report leaks when discovered.

Single-walled piping connects the turbines and transformers to the oil storage tanks described above. The piping is generally copper, two- to six-inches in diameter and runs through the powerhouse walls. The fill ports for the turbine and transformer oil are located on the 3rd floor of the powerhouse.

Piping inside the turbine system and in other mechanical equipment found throughout the Powerhouse is of various size and length, and is generally single-walled. Piping leaks would drain to the basement sump. Single-walled piping transfers fuel from the main fuel tank of the Powerhouse Emergency generator to the Powerhouse interior.

> **Recommendation 7.1** – Replace single-walled piping from the main fuel tank of the Powerhouse Emergency Generator to the Powerhouse interior with double-walled piping.

All piping holding flammable and combustible materials is installed and tested in accordance with National Fire Protection Association 30 – Flammable and Combustible Liquids codes.

7.4 VEHICULAR TRAFFIC

Vehicular traffic is not prevalent in areas containing piping installations. Vehicles are present in exterior portions of the Project that contain aboveground containers and oil-filled operating equipment. In these instances, the containers are protected from vehicular impact by concrete walls, traffic bollards, or curbing.

7.5 CONTAINER FILLING

Transfer events at the Project are infrequent. In all instances, at least one Project employee trained in the implementation of this plan will be present during any petroleum transfer operation. Petroleum transfers will stop if the trained employee must leave the area. During transfer operations filling the bulk storage tanks located in the Powerhouse basement, two Project employees will be required to be in attendance of the transfer operation, one in the Oil Storage Room and one with the tanker truck driver and constant communication between the two Project personnel must be maintained for the duration of the transfer operation.

7.5.1 Petroleum Inventory

An adequate accounting system for petroleum inventory requires that the quantity of petroleum in any tank be determined prior to and after deliveries. At the Project, petroleum inventory shall be monitored and the Oil Accountability Program for Little Goose is included as **Appendix H**. The petroleum supplier determines the inventory by reading the tank gauge. In addition, the volume of petroleum delivered shall be recorded and that information entered into the Project's electronic maintenance database.

7.5.2 Records of Inventory

Containers in the hazardous waste area in the oil purification room are inventoried and inspected weekly. An inventory of the satellite accumulation areas and storage areas are completed monthly. Bulk Storage Container inventories shall be recorded by the petroleum supplier using the information recorded in the logbook during transfer events. All inventory records will be maintained in the Project's electronic maintenance database, and the hard copy records are maintained in the EH&S office for a minimum of three years. Unusual decreases in petroleum levels will be investigated. The Oil Accountability Program is included as **Appendix H**.

8. INSPECTION & PREVENTATIVE MAINTENANCE

Project personnel perform routine inspections and maintenance to ensure that the equipment associated with the petroleum products remains in good operating condition and that leaks and spills are noticed before they become a problem. On a daily basis, an operator walks through the Project inspecting operating equipment, including the oil-storing equipment and makes note of any problems by filing a Trouble Report for that piece of equipment. The following scheduled inspections described below are performed at the Project:

- Visual inspection of oil-containing equipment and containers is performed monthly and annually, and repairs are scheduled immediately as needed.
- Spill kit inventory is performed every month, and new supplies are ordered as used or needed.
- The Powerhouse sump requires maintenance if a recoverable sheen or greater amount of oil is detected during the quarterly inspection. Removal will be accomplished by opening the sump hatches and deploying and retrieving absorbent boom.

8.1 VISUAL INSPECTIONS

A Project employee conducts visual inspections of petroleum storage areas and equipment each month. Visual inspections allow early detection of conditions that could lead to leaks and spills. The purpose of the inspection is to verify that spill prevention measures are in place, verify that equipment is in good condition, and identify items that need to be repaired, replaced, or changed to ensure spill prevention. The inspection shall include all items identified on the checklist in **Appendix D**. When practical, the inspections should be performed while the appropriate equipment is in operation.

System conditions that do not pose an immediate threat of fuel release can be scheduled for repair during routine maintenance. Visible leaks from tank systems large enough to cause the accumulation of oil or staining near the leak shall be promptly corrected. Records shall be maintained of all inspections and testing as described in Section 8.9.

8.2 ABOVEGROUND STORAGE CONTAINERS

Five of the aboveground storage containers at the Project require periodic inspection in accordance with Steel Tank Institute's (STI) *Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids* (STI-001-00; July 2006). These five containers are listed in **Table 8.1**. This standard contains a schedule of periodic inspections to be performed on aboveground storage containers at the Project. The schedule includes monthly, quarterly, and annual visual inspections and preventive maintenance activities. Checklists are included in the standard. The STI checklists will be completed according to the specified frequency and are found in the on-line FEM Maintenance system. Product levels are also documented

in the operator's logbook on a weekly basis. Product levels are also documented on a routine basis as part of the Oil Accountability Program (**Appendix H**).

All hoses, valves, and fittings are to be inspected prior to filling aboveground storage tanks and transfer operations at the oil manifold. All fire extinguishers are inspected monthly on the preventive maintenance system.

Fifty-five-gallon drums are visually inspected when received on site and drum storage areas are visually inspected on a weekly basis.

8.3 STORMWATER IN CONTAINMENT STRUCTURES

It is important that stormwater or water from other sources within containment structures be visually inspected for contaminants prior to discharge. Valves allowing the discharge of water from containment structures are kept closed at all times unless water is being discharged. There are four containment structures that require stormwater removal on a regular basis. A logbook that contains instructions on how to remove stormwater is maintained with the stormwater removal pump. Each stormwater removal action is documented in this logbook and includes a certification statement that the water being discharged is free of contaminants.

8.4 INSPECTIONS OF OIL-CONTAINING EQUIPMENT

Oil-containing equipment is subject to routine preventive maintenance procedures to ensure that the equipment is operating correctly and is not leaking.

8.5 INSPECTIONS OF SUMPS AND OIL-WATER SEPARATORS

8.5.1 Sumps

A sump is located in the Powerhouse basement. The sump acts to minimize the potential of a release by receiving and containing any released oil that may have made it past other spill prevention systems until the oil can be removed.

Also, prior to any overhaul or dewatering activities, the Project sumps will be checked for oil manually. All inspections are documented in the FEM and will also be documented on paper forms.

8.5.2 Oil-Water Separators

There are no oil-water separator for the sump at the Project.

Recommendation 8.1– Install an oil-water separator for the Project sump.

8.6 INSPECTIONS OF OIL DRIPS WITHIN TURBINE PITS

Equipment within turbine pits may leak or drip oil. Due to the design of the equipment, oil runs down toward the turbine pit. At a minimum, turbine pits will be visually inspected on a monthly basis. If oil is present, the material will be immediately cleaned up.

8.7 MONITORING SYSTEMS & ALARMS

On an annual basis, maintenance personnel shall conduct a test of all alarm systems associated with oil-containing equipment and storage containers.

The testing procedure should evaluate the performance of the electrical components of the alarm/monitoring system and ensure that relays and annunciations (audible and/or visible) are in proper operating condition. In the event that there is a failure, repairs will be scheduled immediately. Records shall be maintained of all inspection and testing as described in Section 8.9. Monitor system testing log sheets are provided in the on-line FEM Maintenance system.

8.8 SPILL RESPONSE EQUIPMENT

At a minimum, spill response equipment shall be inspected monthly in conjunction with the visual oil-equipment inspection to ensure that all items are present in good condition and in sufficient quantity to control a minor spill. In the event that spill response equipment is used, maintenance will inspect the spill kit at the conclusion of the spill response activities with used, broken, damaged, missing, or inoperative equipment replaced. **Table 10.2** lists the locations of all spill response equipment located at the Project.

8.9 INSPECTION RECORDS

Records of all inspections will be kept in the electronic maintenance database (FEM) and hard copy records will be kept in the Project EH&S office. Logbooks are maintained with equipment. These records will be stored for a minimum of three years. This time period will allow for meaningful comparison of inspections and tests.

Table 8.1 – Tanks Requiring Inspection in Accordance with STI Standard SP001-00

Tank Name	Location	Capacity	Tank Wall	Installation	Access to Bottom	STI SP001 Category	Inspections Required
Clean Hydraulic Oil	Powerhouse Oil Storage Room (El. 498)	10,000 gallons	Single	Vertical	Yes	One	Monthly & annual visual inspections. Formal external inspection every 10 years recommended
Dirty Hydraulic Oil							
Clean Transformer Oil		20,000 gallons					
Dirty Transformer Oil							
Intake Gate Hydraulic Oil	Intake Deck (El. 555)	1,320 gallons		Horizontal		Three	

9. CONTRACTOR AREAS

9.1 GENERAL DESCRIPTION

Large-scale projects can occur at the Project. This work often employs the assistance of outside contractors who may be present at the Project for a long period of time. For large projects, contractors may install petroleum storage containers. The Project requires contractors to follow the Little Goose Lock and Dam SPCC plan or develop and submit Environmental Protection Plans prior to initiating work on Project properties. If mobile portable containers are present at the Project for longer than six months, this plan may need to be amended to account for these containers.

The Environmental Protection Plan must comply with current SPCC regulations. A copy of the contractor's final Environmental Protection Plan will be kept on file at the Project during the contractors activities.

The Contractor's Environmental Protection Plan shall include, but not be limited to, the following, as applicable to the Contractor's work:

1. Names of persons within the contractor's organization responsible for ensuring adherence to the plan, manifesting hazardous waste, and training.
2. Contractor's Environmental Protection Personnel Training Program.
3. Plan of transportation routes.
4. Plan of work areas.
5. Plan of excavation areas.
6. Spill Control Plan in compliance with 40 CFR 68, 112, 302 and 355.
7. Hazardous Waste Disposal Plan.
8. Recycling and Solid Waste Minimization Plan.
9. Air Pollution Control Plan.
10. Containment Prevention Plan.
11. Waste Water Management Plan.
12. Historical, Archaeological, Cultural Resources, Biological Resources, and Wetlands Plans.

10. SPILL RESPONSE AND REPORTING PROCEDURES

This section discusses response and reporting procedures to take in the event of a spill at the Project. It also discusses the spill history at the Project. In addition, this section addresses the procedures for inspecting, assessing, documenting, and reporting as well as transfer requirements at the Project. Spill response checklists and standard operating procedures (SOPs) are provided as **Appendix C**.

10.1 SPILL HISTORY

Table 10.1 below details the spill history at the Project.

Table 10.1. Little Goose Spill History

Description of Discharge	Corrective Actions Taken
March 2003 Less than five gallons of turbine oil was released from an O-Ring failure in a governor cabinet.	O-ring in main distributor being replaced and cleaning up – no oil to drains or river..
February 2004 Less than one gallon of oil was released from a vehicle located on the Northshore.	Notifications were made. Excavated roughly two 5-gallon buckets of contaminated soil.
March 2004 Less than two gallons of oil was released on Unit #5 when a float control on a seepage pump became stuck and allowed basin to overflow.	Mechanical crew cleaned up oil. Electricians are checking the pump control system and will repair/replace as needed to improve reliability. As an added precaution the float setting was lowered to initiate pumping sooner. No oil to drains or river.
May 2004 Less than one gallon of grease was released in Spillway #1 from trunnion bearings during lubrication.	Some released greased was retrieved with buckets attached to ropes.
April 2005 Less than two gallons of Mobiltherm 603 Oil was released from an old heating system leak within the piping around Spill Gate #4.	Notifications made. Spill boom deployed around spillway 4. Spillway gate heating system pumped out.
August 2005 Approximately 270 gallons of oil was released on Unit #4, Headgate Slot C from a failed headgate cylinder. Most of the released oil was contained in the headgate slot.	Notifications made. Orifices closed. Spill boom deployed around unit 4 discharge. Emerald Petroleum Services called out with pump truck to pump out slots. Headgate cylinder pulled and repaired.
August 2005 Approximately five to 10 gallons of diesel fuel was released from the Northshore emergency diesel generator when a vent valve on the fuel filter became loose.	No fuel to sumps or river. Cleaned up fuel with pads and pigs. Vent Valve retightened.

March 2006 An investigation was made to determine a frothy like substance on a boat within the Navigation Lock. The substance did not smell nor did it feel like an oil or grease substance. Also, did not have the rainbow color to its sheen. The substance was determined to be biologic.	Notification made. Investigated a possible sheen by boat within the navigation lock.
June 2006 Approximately 30 to 40 gallons of hydraulic oil was released in the Navigation Lock drain valve machinery room when an O-Ring on the pressure supply valve failed.	No oil reached the river; so no notifications made. Oil was cleaned up with absorbent pads and oil vacuum. Also, the gate chamber was inspected and no oil found or absorbed in socks that were put into the chamber water.
September 2006 Approximately five to 10 gallons of hydraulic oil was released on the sump pumps near the downriver side of the Navigation Lock from a faulty drain plug in room. The hydraulic oil in the drain was from the June 2006 leak.	Notifications made. Absorbent river boom deployed. Absorbent socks deployed in sump and sump cleaned out. New drain plug installed. Addition made to PM to inspect contents of sump prior to annual operation.
October 2006 Approximately three to eight gallons of oil was released from cracks in the gate seal heater piping system on Spillway #2.	Notifications made. Absorbent river boom deployed. The systems have already been pumped out. Project looking into somehow encasing the residue oil with some sort of grout or expansion foam.
January 2007 An unknown amount of a yellow biologic mucous/pollen substance was observed in the Forebay Area. The substance did not have rainbow coloring and smelled like fish.	Notifications made. Absorbent pads deployed to try to collect samples and identify this substance.
January 2007 Approximately two to four ounces of hydraulic oil was released in the Forebay Area when the cap seal of the FMC movable crane hydraulic oil pressure tank O-Ring failed.	Notifications made. Absorbent booms and pads deployed to forebay. Oil on upper deck and around drains cleaned up.
January 2007 Approximately two to three ounces of residual hydraulic oil in the sump system piping near the downriver side of the navigation lock were released. The residual in the sump system piping were from the September and June 2006 leaks.	Notifications made. Absorbent river boom deployed prior to cycling sump pumps. Absorbent socks deployed in sump and sump cleaned out.
February 2007 An unknown amount of biologic substance was observed on the Forebay northside near the security gate.	Tried collecting samples of substance with bucket and rope and absorbent pads and rope. No notifications performed.

May 2007 An undetermined amount of carbon substance from the Columbia Queen Boat being locked through the Navigation Lock was observed collecting on the water surface. The carbon substance is the result of the Columbia Queen tour boat using a mister over their vessels to knock down the exhaust.	Notifications made. Absorbent river boom deployed. Mark Stevens with WADOE said they have heard and seen this and it is not an oil or spill and there is really nothing you can do to clean it up.
September 2007 Approximately one quart of turbine oil was released on the Turbine Pit, Unit #3 when a hub seal leaker or the seal around the bolt failed.	Notifications made. Absorbent boom and pads deployed.
October 2007 Approximately 125 to 150 gallons of turbine oil was released into the Snake River from Unit #6 when the governor tank unloader/limit switch broke, causing overflow. Approximately 35 gallons of product was recovered from the river.	Notifications made. Absorbent river boom deployed. Absorbent socks deployed in sump and sump cleaned out. Examined all other unit governor limit switches.
March 2010 Approximately one gallon of residual oil was released from the headgate seal heater from Spill Bay #2. The heaters have been drained since 1999 and have had similar, previous leaks since.	Notifications made. Absorbent river boom deployed and containment boom placed along entire spillway.
January 2013 Unit #1 had a water leak from heat exchanger into the lower guide bearing, unit was shut down before bearing overflowed, but there is some oil below around head cover pumps. Some of that oil made it to the sump which was then discharged to the river, causing a sheen.	Notifications made. Absorbent river boom deployed and containment boom placed along south corner of tailrace in front of unit 1. Boom was also placed in the sump.
February 2013 Two 4X4 feet sheens believed to be from Unit 1. (Unit #1 which was placed out of service on 2/15/13 at 1930 due to excessive vibration. Under supervision the unit was restarted about 40 minutes later at 2007 and stopped at 2011. All oil levels were checked after this incident on the 15th and no decreases in oil levels were found. Oil accountability will be done again today to verify oil levels. Because the cause of the excessive vibration is unknown it is difficult to accurately identify the source of the sheen.)	Notifications made. Absorbent river boom deployed and containment boom placed along south corner of tailrace in front of unit 1. Boom was also placed in the sump.
March 2014 One half of a gallon of hydraulic oil spilled from a Navigation Lock pump reservoir.	Notifications made. The deck was wipe down and all oil was cleaned up. Observations were made after the incident to detect any possible sheens from the spill.

March 2014 Up to 7 ounces of lube oil (one ounce from each of seven gear boxes) was released to the river from the fish screen slots.	Notifications made. Release was contained within the facility and there was no oil in the sump.
April 2014 One ounce of lube oil was released to the river from a fish screen slot.	Notifications made. Release was contained within the facility and there was no oil in the sump.
August 2014 An ounce of hydraulic oil was spilled from a fish gate slot while starting Unit #5 due to an equipment failure.	Notifications made. Release was contained within the facility, booms were deployed and there was no oil in the sump.
August 2014 Approximately 4.5 gallons of hydraulic oil spilled from a kinked hose on a hydraulic cylinder. Release was to the head gate slot.	Notifications made. The release was contained in the head gate slot and cleaned up.
May 2014 K&N Electric was moving a pallet of plywood from a trailer to inside the powerhouse. The forklift they were using blew an o-ring causing a small spill of hydraulic fluid. At the time the spill occurred, they were driving over the tailrace. Less than a cup of oil landed on top of the gate hatch. When they repaired the forklift, they used it to remove the gate hatch to clean up the oil. None reported to water.	Notifications made. Release contained.

10.2 SPILL RESPONSE PROCEDURES

Project employees shall act as first responders to a spill at the Project. Their role is to control the spill, if possible, and to call for assistance. For a major spill that cannot be readily contained by Project personnel, a spill response contractor will be immediately contacted to respond to a spill at the Project.

In general, the following procedures should be followed to respond to oil spills or leaks:

- Prepare for spills/leaks.
- Assess the risk.
- Control the release to the extent possible.
- Report the release to management and government agencies, if appropriate.
- Clean up the impacted area as soon as possible.
- Follow up with preventive measures.
- Log the incident and record spill quantities.

10.2.1 Pre-Planning

The Project ECC should familiarize Project personnel with all aspects and requirements of release reporting, inspecting, assessing, and documenting, including the types of chemicals at the Project that must be reported when released, the procedures for making telephone notifications, and the agencies that must be contacted.

The Project ECC should also ensure that the list of agencies, emergency response contractors, and emergency telephone numbers found in Section 2.2 are readily available and up to date.

10.2.2 Assess the Risk

The risks presented by a release shall be assessed the moment a release is observed or discovered. Because risks can change throughout an emergency, assessing the risk shall continue throughout the duration of the incident. Project staff shall react accordingly to their level of training. A major release may require the evacuation of employees and response by outside emergency response services that are equipped and trained to handle major releases. Project operations staff will also routinely assess and inspect all oil-filled equipment, check for any detectible leaks, and properly document any oil added or subtracted. Should the need to add oil be determined, a thorough inspection by maintenance staff shall be conducted to identify the source of leak or reason for low oil levels.

An oil sheen reference guide is provided in **Appendix C**. The purpose of this guide is to provide employees with standard descriptions in the event an oil spill reaches surface waters of the United States and to evaluate the severity of the release.

10.2.3 Control the Release

Every effort shall be made to contain a spill from spreading from any of the oil storage areas at the Project. Employees should respond to the spill, wearing appropriate personal protective equipment, securing the area, and using proper sorbent materials to block the flow of the spill so that it does not spread, and every effort should be made to prevent release into surface waters of the United States.

10.2.3.1 Types of Control Methods

Sorbent materials are used at the Project to prevent oil from spreading into storm drains. Common methods that can also be used for controlling spills include:

Absorption – Use sorbent materials such as clay, sawdust, or vermiculite to absorb liquids. When absorbents become contaminated, they retain the properties of the absorbed liquid. Therefore, petroleum-contaminated sorbent must be disposed of in compliance with state and federal rules for petroleum-contaminated materials.

Covering – Spill areas may be covered with appropriate materials, such as plastic sheets, until cleanup efforts can be completed.

Dikes, dams, diversions, and retention – These temporary or permanent physical barriers may be used to retain spills, change the direction of flow of the liquid, or minimize storm water run-on to the impacted area.

Overpacking – Leaking drums or containers may be placed in larger containers to hold the leaking liquid.

Plug and patch – Compatible plugs and patches may temporarily stop the flow of materials through small holes.

Transfer – Liquids may be transferred from a leaking or damaged container or tank. Care must be taken to ensure transfer hoses and fittings are compatible with the liquid. When flammable liquids are transferred, proper concern for grounding must be observed.

10.2.3.2 Implementing Control Methods

In general, the methods listed above for controlling spills should be implemented as follows:

Small spills confined to immediate area – Place sorbent materials in direct contact with the spilled liquid, working inward from the farthest point of progression of the liquid. The quicker the response, the smaller the contaminated area will be.

Larger spills and spills escaping from immediate area – If liquid begins to spread outside of the immediate area, attempts should be made to stop the flow before it exits the paved area or reaches a drain. This can be accomplished by using sorbent materials to block the flow and keep the spill contained near the tanks and by covering floor drains.

10.2.4 Report the Release

Immediately after initiating appropriate emergency measures to protect Project personnel and to confine the release, Project personnel should report any environmental release to management. The Project ECC or designee will report to the appropriate government agency, as required. "Immediately" means as soon as a person is available to call without further endangering human life or the environment but in no event, longer than one (1) hour after discovering the release. Section 10.2.4.1 describes the process used for reporting spills, leaks, and unpermitted environmental releases to government agencies as necessary. Its purpose is to ensure compliance with applicable government regulations and to provide a standard procedure for responding to and reporting spills and releases.

If at any time, Project staff identifies a leak, staff will document the deficient amount, complete a Trouble Report (TR), and report the leak to management and the Project ECC. Staff will ensure documentation includes the following, as a minimum:

- Date and time of inspection.
- Amount deficient.
- Action taken.

- Probable cause of leak following thorough inspection.
- Initials of Project staff inspector.

10.2.4.1 Reporting Scope

This procedure applies to virtually every spill or release of a regulated chemical at the Project, because environmental regulations apply to the release of a regulated chemical above a reportable quantity or in excess of a reporting threshold to the environment. The definitions of the term's **environment**, **release**, **regulated chemical**, and **reportable quantity** vary from agency to agency and are often broadly interpreted by government agencies. There can be severe penalties for failing to notify government agencies immediately.

The term **environment** includes surface water, groundwater, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

The term **release** means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, ejecting, escaping, leaching, dumping, or disposing into the environment.

The term **regulated chemical** includes the following:

- CERCLA hazardous substance as defined in 40 CFR 302.4.
- Extremely hazardous substance as defined in 40 CFR 355.
- Oil and petroleum products.

The term **reportable quantity** for any oil is:

- *On water*: Any spilled liquid that results in a visible sheen of oil on the surface water outside the containment.
- *On land*: 42 gallons, any spill that requires external resources to clean up.
- *On Impervious Floor or Ground Material (concrete, asphalt, etc.)*: A spill or release into a containment structure does not result in a release to the environment and, therefore, does not count toward a reportable quantity.

10.2.4.2 Telephone Notifications to Government Agencies

When in doubt, report immediately. The time allowed for reporting a release varies from agency to agency. The Project ECC or his/her designee should report to management and government agencies immediately. Agencies have imposed significant fines and penalties for delayed reporting of releases.

10.2.4.3 Start with Local Agencies First

See Section 2.2 or **Appendix C** for emergency telephone numbers.

When making emergency telephone notifications, start with local agencies first (e.g., the fire department), then proceed to contact state agencies, and finally federal agencies. This order of priority is important because local agencies are impacted the most. As these notifications are made, let the next agency contacted know who has been previously contacted. This will help streamline communications should the various agencies begin to contact each other. Spills or releases into the local sewer system must be reported to the local sewer authority.

10.2.4.4 What to Report

When making a telephone notification, *do not speculate*. Report only the facts as known at the time the call is made. Be prepared to provide the following information:

- The chemical name or identity of any substance involved in the release (e.g., diesel fuel or sulfuric acid).
- An indication of whether the substance is an Extremely Hazardous Substance (e.g., diesel fuel is not, but sulfuric acid is an Extremely Hazardous Substance).
- An estimate of the quantity of any such substance that was released.
- The time and duration of the release.
- The medium or media into which the release occurred (e.g., storm drains, surface water).
- Current weather conditions and downstream hazards.
- Any known or anticipated acute or chronic health risks associated with the emergency and where appropriate, advice regarding medical attention necessary for exposed individuals.
- Proper precautions to take because of the release, including evacuation.
- The names and telephone numbers of the person or persons to be contacted for further information (e.g., the Project emergency contact person).

10.2.4.5 Keep a Telephone Notification Log

It is important to document calls made to government agencies. **Appendix C** contains a telephone notification log. Document telephone notifications on a phone log as well as other information about the environmental incident:

- Date and time of call.
- Agency and the name of the person contacted.
- Person making the call
- Any comments made by agency officials, including any reference number assigned to the incident by the agency.

As soon as possible, after making these agency notifications, notify line management.

10.2.4.6 Other Notifications May Be Required

Additional notifications may be necessary depending on the nature of the release and substance involved. Some incidents may require follow-up reports. If the Project

discharges more than 1,000 gallons in a single event or more than 42 gallons in each of two events in a single year, the Project must submit written information to the EPA Regional Administrator and the appropriate state oil pollution control agency as described in the federal regulations at 40 CFR 112.4(a). Contact USACE personnel identified in Section 2.2 and **Appendix C**.

10.2.5 Clean Up the Impacted Area

Cleanup should begin as soon as possible after initial containment and required immediate reporting. The Project ECC, or his/her designee, should enlist all appropriate resources to stop the spill or release, including outside contractors to assist in cleanup activities.

The Project ECC should arrange for the proper treatment, storage, and disposal of spilled materials. Spill cleanup contractors should not be allowed to dispose of spill residue until an approved or acceptable disposal facility has been identified. When necessary, the Project ECC will contact the District ECC if additional support is deemed necessary.

10.2.6 Follow-up Action

The Operations Project Manager (OPM) or designee will review the cause of the spill or release and initiate appropriate corrective actions to prevent similar occurrences. Additionally, all spill kits and sorbent material will be restocked by the Project Contact or his/her designee.

The Project ECC will be responsible for preparing and submitting any written follow-up reports required by government agencies.

This SPCC Plan will be evaluated following any reportable quantity incident. The purpose of the evaluation will be to assess whether spill prevention methods prescribed in this plan adequately prepared the Project for the event. Following the evaluation, the plan will be updated as needed.

According to 112.4(a), within 60 days of a discharge of more than 1,000 gallons of oil or the second of two discharges of 42 gallons, the following information must be submitted to the Regional Administrator:

1. Name of the facility.
2. Name of person filing report.
3. Location of the facility.
4. Maximum storage or handling capacity of the facility.
5. Corrective action and countermeasures taken, including a description of equipment repairs and replacements.
6. An adequate description of the facility, including maps, flow diagrams, and topographical maps as necessary.

7. The cause of such discharge including a failure analysis of the system or subsystem in which the failure occurred.
8. Additional preventive measures taken or contemplated to minimize the possibility of recurrence.
9. Any additional information as the Regional Administrator may require pertinent to the SPCC Plan or discharge.

10.3 SPILL RESPONSE EQUIPMENT

Spill response equipment will be kept in areas that are immediately accessible during maintenance or transport of any oil-bearing equipment or container. Spill response equipment and materials at the Project are maintained in exterior locations and at interior locations.

Response equipment consists of self-contained spill kits plus bags of oil-only sorbent pads and booms. The contents of the various spill kits maintained at the Little Goose Facility and their respective oil-absorbing capacities are presented in **Table 10.2** below.

Table 10.2 – Spill Response Kit Inventory & Capacity Information

Location	Item	Additional Equipment
Powerhouse - 1st Floor; near elevator next to ventilation ductwork	Spill Kit in Large Mobile Container (Blue)	5 Boxes Ultra Drain Seal 1 - 20gal. Absorbent Poly LabPack 2 - 5gal. Spill Kits 1 - 25gal. Bag Oil Dry Absorbent 1 - Bag Absorbent Pads 7 - 95gal. OverPack Drums
Powerhouse - 1st Floor, Oil Storage Room	Spill Kit in Large Mobile Container (Blue)	
Powerhouse - 2nd Floor, Between elevator and sewage Room	Spill Kit in Large Mobile Container (Blue)	Drain Cover 12" Oil Absorbent Pads Tyvek Suits (2) Blue Sock (1)
Powerhouse - 3rd Floor, Downstream Gallery - Paint Shop	95 gallon	
Powerhouse - 3rd Floor, Compressor Room	95 gallon	Oil Dri Absorbent (1) Oil Absorbent Pads (1)
Powerhouse - 3rd Floor, Between Units 4 and 5	Spill Kit in High-Visibility Storage Chest	
Powerhouse - 4th Floor, Outside Warehouse	95 gallon	Oil Dri Absorbent in Silver Can
Powerhouse - 5th Floor, Battery Room	5 gallon spill kit (2)	Acid Nuetralizing Mats (1 box)
JFF, Shop	Spill Kit in Large Mobile Container (Blue)	Floor Drain Cover
JFF, Flammable Storage Building	Box Kit	
JFF, Lab	5 gallon Spill Kit	
Nav. Lock In between Unwatering Tainter Valve Room and North Miter Gate Room	Spill Kit in High-Visibility Storage Chest	

Spill Kit in High-Visibility Storage Chest Inventory

Includes:

1 - 48" L x 31" W x 41.75" H PIG® Storage Chest (BOX405-OR)
10 - 3" x 10' PIG® BLUE Absorbent Socks (PIG202)
31 - 3" x 48" PIG® BLUE Absorbent Socks (4048)
154 - PIG® Universal Mat Pads (MAT203)
112 - PIG® Wipers (WIP310)
15 - Temporary Disposal Bags and Ties (BAG201-L)
6 - Tamperproof Labels (LBL100)
1 - Instruction Manual

95 Gallon Oil Spill Kit Inventory Sheet

Includes:

3 - 5" x 10' PIG® Oil-Only Booms (BOM405)
10 - 3" x 10' PIG® Oil-Only Booms (BOM406)
60 - PIG® STAT-MAT® Absorbent (MAT214)
10 - Temporary Disposal Bags and Ties (BAG201-L)
1 - Instruction Manual
6 - Tamperproof Labels

5 Gallon Universal Spill Kit Inventory

Includes:

10 Pads, Light Wt.
2 Socks, 3”x48”
1 Bag Ultrasorb, 5#
1 Temp Disposal Bag, 4 mil
1 Plastic Zip Tie
1 Pair Nitrile gloves
Instruction Sheet

11. SECURITY

The entire facility is bordered by steel security fencing, and insurmountable geologic barriers. Entrance gates are guarded during the day, and closed during non-visitor hours. Unmanned areas are monitored by security cameras.

The project requires all persons conducting official business to obtain a visitor identification badge at a designated entrance. Card key security systems are installed at gated entrances to the project and the entrance doors to most internal buildings. Site access is restricted to authorized personnel only, and ranger staff and/or operators who patrol the project lands 24 hours a day.

All oil and hazardous materials storage areas will be locked, or and secured from public access. These areas will be accessible only to personnel who have been properly trained in the safe use and handling of the substances stored there.

11.1 DRAIN VALVE SECURITY

Any valves that permit outflow of a container's contents remain closed when in non-operating or non-standby status.

Fill ports, starter controls and valves for oil tanks and fuel tanks located outside the powerhouse are secured and accessible only to authorized personnel, albeit access to the area is already controlled by security fence and cameras.

Fill ports for the large transformer and turbine oil tanks are located inside the secured powerhouse building and locked.

11.2 PUMP MOTOR CONTROL SECURITY

The oil-bearing machinery and storage reservoirs are located on Project property, which is secured and only accessible to Project personnel. External transfer piping isolation valves and pump controls are located within the secured and monitored Powerhouse. An operator monitors the control systems at all times.

11.3 FACILITY LIGHTING

Facility lighting within the plant is sufficient for the discovery of spills occurring during the hours of darkness and for the prevention of spills occurring through acts of vandalism. A video security system operates continuously and is monitored by the control room operator. The Control Room authorizes access to the project during the hours that the project is closed.

12. PERSONNEL TRAINING AND SPILL PREVENTION PROCEDURES

12.1 PERSONNEL TRAINING

Annual training and exercise of this plan is required by 40 CFR 112.7(f). This requirement requires the training of employees in the following areas:

- The operation and maintenance of equipment to prevent discharges.
- Discharge procedure protocols.
- Applicable pollution control laws, rules and regulations.
- General facility operations.
- The contents of this facility SPCC Plan.
- 29 CFR 1910.120 refresher training.

In addition to responder training listed below, employees who handle petroleum products are trained on the components of this SPCC Plan. This training includes associated procedures such as drum handling, petroleum transfers, methods of identifying oil levels on all oil-filled operating equipment, incident command, and the operation of pumps and/or sumps within the Safe Clearance Procedure.

12.1.1 New Employee Training

New employees are trained in the following areas:

- 29 CFR 1910.120(q)(6) HAZWOPER. All employees who clean up hazardous waste release must complete training before called upon to perform emergency operations, annual refresher training required. Roles that are covered under this regulation are as follows:
    - First Responder Awareness, notify of release, secure site.
    - First Responder Operations Level, defensive response.
    - Hazardous Material Technician, control releases.
    - Hazardous Materials Specialist, special training to control releases.
- 40 CFR 112.7 (f) Train all oil handling personnel to prevent discharges, facility operations, pollution control laws and SPCC once per year.

First Responders require appropriate training to become compliant with the HAZWOPER standard and competent in their response capability. First Responders are initially trained in an 8-hour “Operations Level-First Responder class.” After Completing initial training, First Responders are authorized by their respective Operations Project Managers to take all necessary actions during spill emergencies for the protection of human life, the environment, and property in that order. Familiarity with this plan and with hazardous materials at the workplace is essential for a safe and effective response.

First Responders are also required to complete annual refresher training to maintain their competency. Training will utilize tabletop exercises, video resources, and hands-on experience to achieve the required competencies. First Responders may be refreshed on-site or off-site. A four-hour (minimum) refresher course is recommended. A formal record indicating the date of the course, hours of training, and subject matter covered will be maintained by the project office.

12.2 SUPERVISION

The OPM, or his/her written designee, is responsible for oil spill prevention at the Project and for coordinating spill response and spill prevention programs and activities.

The Facility Contact ensures all assigned personnel are properly trained and capable of taking the appropriate actions should a spill occur. Additionally, the Facility Contact is responsible for the condition and completeness of spill response equipment and spill kits.

The Project ECC ensures that the Project's supplement to the District Spill Response Plan is current and that all Incident Commanders and First Responders are properly designated, equipped, trained, and exercised. The Project ECC provides support to the Incident Commander to safely and effectively respond to a spill emergency.

The Project's maintenance personnel are designated and trained as first responders to any oil release and are responsible for assessing and inspecting all oil-filled operating equipment. The operator on duty will contact Project personnel as tabulated in **Section 2.2** and **Appendix C**. All post-spill cleanup, waste disposal, and reporting activities are coordinated through the Project ECC.

12.3 SPILL PREVENTION BRIEFINGS

Annual refresher training, including spill response exercises, is conducted at the Project. Exercises may use tabletop, video, or field props to simulate realistic conditions and achieve effective response scenario training. At a minimum, exercise elements will include testing the project's notification procedure; hazard recognition; site security; incident command; safety planning; and defensive measures. Exercises will focus on responses to discharges of petroleum, oil, or lubricants.

12.4 RECORDS

The Project ECC is responsible for maintaining all records related to the Spill Prevention Program, including employee training. A record of SPCC Plan employee training shall be maintained in the Project EH&S office along with the general employee training records. Personnel Training Forms are provided in **Appendix G**.

13. SPCC PLAN RECOMMENDATIONS

Table 13.1 summarizes the recommendations made throughout the plan for improving spill prevention measures and procedures.

Table 13.1 – Recommended Improvements

Recommend. No.	Source Area	Recommendation	Responsible Party	Assigned Date	Scheduled Completion Date	Current Status
3.1	Powerhouse	Any single walled piping between the AST and day tank should be contained within a secondary pipe system that daylights in the room that contains the day tank.	TBD	TBD	TBD	TBD
4.1	Intake Deck	Use of biodegradable hydraulic oil is strongly suggested throughout the Project, in particular in the intake gate cylinders where secondary containment is impractical.	TBD	TBD	TBD	TBD
4.2	Intake Deck	Use of biodegradable hydraulic oil is strongly suggested throughout the Project, in particular in the gearboxes where secondary containment is impractical.	TBD	TBD	TBD	TBD
7.1	Powerhouse	Replace single-walled piping from the main fuel tank of the Powerhouse Emergency Generator to the Powerhouse interior with double-walled piping.	TBD	TBD	TBD	TBD
8.1	Powerhouse	Install an oil-water separator for the Project sump.	TBD	TBD	TBD	TBD

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix A –

Certification of the Applicability of the Substantial Harm Criteria

APPENDIX A Certification of the Applicability of the Substantial Harm Criteria

Substantial Harm Determination

Facility Name:	**Little Goose Lock & Dam**
Facility Address:	1001 Little Goose Dam Road
Facility City/State/Zip:	Dayton, WA 99328

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

☐Yes ☒No

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

☐Yes ☒No

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III, 40 CFR Parts 9 and II 2 or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E, Section 10, 40 CFR Parts 9 and 112 for availability) and the applicable Area Contingency Plan.

☐Yes ☒No

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-111, 40 CFR Parts 9 and 112 or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

☐Yes ☒No

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

☐Yes ☒No

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature/Date: _____

Name: _____

Title: _____

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix B –

Walla Walla District Spill Action Plan

Walla Walla District

Army Corps of Engineers

Spill Action Plan

Walla Walla District– All Projects

April 2015

SPILL ACTION PLAN
RESPONDER GUIDELINES

At the Scene of a Spill - Take These Actions!

1. **Whoever discovers the spill will immediately contact the Control Room Operator In Charge (OIC).**

2. **If workers are injured or exposed to chemicals, instruct the control room to contact local emergency services. Provide first aid, if qualified and it is safe to do so; Otherwise, stay calm and wait with injured personnel for emergency responders to arrive.**

3. **Assess the spill situation: Is there a release, or potential release to the environment (water, soil or air)? If so, notify control room immediately & if possible, stop the source of the spill.**

4. **If the spill is large enough to produce a recoverable sheen on the River, establish Incident Command. At a minimum, establish an Incident Commander & Safety Officer. Determine strategic goals (what to do) & tactical objectives (who & how).**

5. **Make notifications in accordance with Project emergency call-down list. At a minimum notify OPM, Chief of Ops and Project ECC.**

6. **If an Incident Command is established, fill out Forms ICS 201 and 202 (Annex 1). Use these forms as both an Initial Report and as an Incident Action Plan.**

7. **Conduct a safety briefing before any Responder's are tasked to respond. Use Annex 2, "Spill Emergency - Activity Hazard Analysis" as a guide**

8. **For all oil spills to the water, deploy absorbents and containment equipment to the maximum extent possible. Use standard project safety practices.**

9. **For other hazardous material spills beyond the project's training and equipment abilities, establish site security and Incident Command but do not approach the spill or attempt to contain. Contact the District Contracting Office and Activate Fire Service and/or Spill Contractor response.**

10. **Continually reassess the situation. Exchange Incident Command functions (Incident Commander, Safety Officer, Operations, etc.) as appropriate. Use Interagency Resources. Follow all the guidelines established in the Project Spill Control, Prevention and Countermeasure (SPCC) Plan.**

SPILL RESPONDER PRIORITIES: (1)PEOPLE (2)ENVIRONMENT (3)PROPERTY!

Table of Contents

1. INTRODUCTION

This Spill Action Plan was developed to provide Walla Walla District employees with procedures for taking actions during oil or hazardous substance spills. Employees who respond to spills shall work in accordance with the procedures outlined in the CENWW-OD SOP 1130-2-500, *Emergency Preparedness at NWW Operating Projects*, and Occupational Safety and Health Administration (OSHA) guidelines for Hazard Communication Standard (HAZCOM) and/or Hazardous Waste Operations and Emergency Response (HAZWOPER). Corps employees shall only take actions for those spills to which they have been trained and properly equipped to respond. Any spill must be first assessed to determine whether it is incidental or an emergency. An incidental spill is defined as follows:

Responses to incidental releases of hazardous materials where the substance can be absorbed, neutralized, or otherwise controlled at the time of release, by employees in the immediate release area, are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous materials where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

Such responses can be cleaned up under the HAZCOM Standard.

In the event of a spill emergency, employees shall take only defensive actions (such as setting out absorbents or securing a piece of machinery), unless trained, at a minimum, to the 24-Hour HAZWOPER Standards of "First Responder, Operations Level" as described in 29 CFR 1910.120(q). Trained employees can contain and clean-up low hazard materials (such as oil products) so long as breathing protection is not required. High hazard or large quantity spill response will require support from outside agencies (spill contractor, HAZMAT Groups, Local Fire Departments, etc.). The definition of a spill emergency as identified by the Hazardous Waste Operations and Emergency Response Standard is found in 29 CFR 1910.120:

Emergency response or responding to emergencies means a response effort by employees from outside the immediate released area or by other designated responders (i.e. mutual aide groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance.

2. SCOPE

This Spill Action Plan, hereafter referred to as the "Plan," provides an orderly procedure for safe and effective response to oil or hazardous substance spill emergencies. The Plan provides a single consolidated document to meet multiple spill response planning requirements as identified under OSHA's Hazard Communications Standard, RCRA's Contingency Plan, SARA Title III's Emergency Planning and Community Right To Know Act, the Oil Pollution Act, the Clean Water Act, and the State, Area, Regional, and National Contingency Plans (NCP) for spill response. Implementation of the NCP requires a nationwide network of regional response plans. This Plan is a part of that nationwide network. Operations Managers, Incident Commanders, and Responders shall use this plan as their primary guidance for responding to oil and hazardous substance spills in the Walla Walla District.

This plan includes a discussion of regulatory agency and Walla Walla District responsibilities followed by discovery and notification procedures, incidental spill response, emergency spill response, safety and health, pollutant disposal, spill response contracting, reporting, public information, training and exercise requirements, and the distribution of the document. "Special Cases" of hazardous substance emergencies and response are also identified. These include floating drums, illegal dumping, spills onto leased/out granted property, and spills at construction sites on or off Corps property. Additional annexes provide project-specific information in support of the text.

3. STATE & FEDERAL REFERENCES

AR 200-1, U.S. Army, Environmental Protection and Enhancement, Chapter 3, "Oil and Hazardous Spills", (February 1997).
Clean Air Act, Section 112 [r], (1990).
Clean Water Act, Spill Prevention, Control, and Countermeasures (SPCC), 40 CFR Part 112, (1972).
CENWW-OD SOP 1130-2-500, Emergency Preparedness at NWW Operating Projects
Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR Parts 300; 302; 355; and 373, (1980).
DA PAM 200-1, US Army, Environmental Protection and Enhancement, Chapter 3, "Oil and Hazardous Spills", (January 2002).
EM 385-1-1, U.S. Army Corps of Engineers, Safety and Health Requirements Manual, (September 2003).
Emergency Planning and Community Right-to-Know Act (EPCRA), 40 CFR Part 355, (1990).
ER 200-2-3, U.S. Army Corps of Engineers, Environmental Compliance Policies, (29 October 2010).
Executive Order 12856, Federal Compliance With Right To Know Laws and Pollution Prevention Requirements, (August 1993).
Geographic Response Plan, Washington Department of Ecology, (December 1997).
National Oil and Hazardous Substance Pollution Contingency Plan, 40 CFR Part 300, (1980).
Hazardous Materials Transportation Act of 1979, 49 CFR Parts 170-178, (amended 1990).
Northwest Area Contingency Plan (NWACP), EPA Region 10, (July 1998).
Oil Pollution Act of 1990, 40 CFR Part 112; 33 CFR Parts 135,137, 150; 49 CFR Part 106; & 15 CFR Part 900 (1990).
OSHA's Emergency Action Plan, 29 CFR 1910.38a (2000).
OSHA's Hazard Communication Standard, 29 CFR 1910.1200 (amended 1994).
OSHA's Process Safety Standard, Management of Highly Hazardous Chemicals, 29 CFR 1910.119 (1992).
Resource Conservation and Recovery Act (RCRA), 40 CFR Parts 260-266, (July 1986).
Toxic Substance Control Act (TSCA), 40 CFR Part 761, (1976).
Superfund Amendments and Reauthorization Act (SARA) , 40 CFR [see CERCLA], (1986).
Washington Administrative Code, Chapter 173-180D, Facility Oil Spill Prevention Standards (1992).

4. REGULATORY AGENCY RESPONSIBILITIES

Primary responsibility for the management of oil and hazardous substance spills in inland waters is assigned to the Environmental Protection Agency (EPA) Region 10 office in Seattle, Washington. The U.S. Coast Guard's Portland, Oregon office has responsibility for the management of spills in coastal waters up to Bonneville Lock and Dam on the Columbia River. Both agencies have designated Federal On-Scene Coordinators (FOSC's) who have the responsibility of coordinating spill responses outside the capability of local resources. The EPA and USCG decide whether the spill is major or minor, whether the "spiller" is being responsive, and if necessary call in outside contractors.

Both agencies make use of designated "On-Scene Coordinators" (OSC's) from either the Oregon Department of Environmental Quality (DEQ) or the Washington State Department of Ecology (DOE). Corps Operations Managers, Incident Commanders and Responders shall recognize the authority of FOSC's and OSC's and, where appropriate, incorporate them into a single "Unified Command" structure. If Tribes are impacted or have the potential of being impacted, they have a right to be included under the Unified Command Structure.

5. WALLA WALLA DISTRICT RESPONSIBILITIES

Walla Walla District responsibilities for spill response are dependent upon whether the spill occurs on Corps property or non-Corps property. Each of these cases is discussed and the responsibilities of key staff are defined.

a. **Spills On Corps Property**. For non-construction related spills occurring on and limited to Corps property the Operations Project Manager (OPM), or designee shall have the responsibility and authority to coordinate response and recovery actions. Their primary mission is to ensure that proper site control, spill containment, and cleanup is achieved while protecting the health and safety of all personnel involved in the response. If the spill occurs on Corps property and has the potential to impact non-Corps property, the OPM may be required to expand the unified command system to include the FOSC (EPA or USCG) and/or OSC. At all times the Corps shall retain control of Corps resources and personnel involved in the response.

b. **Spills Off Corps Property with Potential to Impact Corps Property**. For spills occurring off Corps property with the potential to impact Corps property, the OPM shall initiate defensive actions. This generally involves using Corps resources on Corps property and supporting the EPA or USCG FOSC and/or the OSC response to the extent possible. Spill response to non-Corps spills on non-Corps property is only authorized when the spill represents a threat to Corps facilities. In accordance with ER 200-2-3, authorization by the Commander is required for off-site actions. Corps forces will be withdrawn as soon as alternate response units arrive (as identified in the Northwest Area Contingency Plan) and the situation has stabilized.

c. Spills by organizations under Resident Office purview. For spills occurring on or off Corps property by organizations under construction contracts to USACE with the

potential to impact health or the environment are the responsibility of the contractor. The contractor shall be required to report spills to the Contracting Officer's Representative (COR) and the OPM or the District Environmental Compliance Coordinator (ECC) immediately. The COR shall insure that the Contractor initiates actions per approved plan. This generally involves insuring that the contractor is taking proper action and that the Contractor is coordinating with state and federal spill response authorities. Spill response by Corps employees, on or off Corps property, shall be advisory to the Contractor for insuring the Corps interest. Corps of Engineers personnel direct response is only authorized when the spill represents a threat that is not being properly responded to by the Contractor. In accordance with ER 200-2-3, authorization by the Commander is required for off-site actions. Corps forces will be withdrawn as soon as alternate response units arrive and the situation has stabilized.

6. DISCOVERY AND NOTIFICATION

When an oil or hazardous substance spill is discovered within the Walla Walla District the notification process must begin immediately. At the time of notification, the discovering party should determine if the spill is "incidental" or an "emergency." In many cases this distinction will be obvious. To make the proper distinction between an incidental spill and an emergency spill it is necessary to look at two factors: health & safety and the environment.

Accidental spills of hazardous substances are covered by one of two health and safety programs. These programs are: (1) The Hazard Communication Standard, 29 CFR 1910.1200, which covers the worker response to "*incidental spills,*" and; (2) The HAZWOPER Standard, 29 CFR 1910.120 (q) which covers worker response to "*spill emergencies*." Accidental spills of hazardous substances also are covered by one of two environmental programs. These are "non-reportable quantity spills" and "reportable quantity spills." For purposes of this plan, non-reportable quantity spills are generally considered to be *incidental spills* and reportable quantity spills are generally considered to be *emergency spills*. <u>When it is difficult to determine whether a spill is incidental or emergency, the OPM will make the final determination.</u>

When an *incidental spill* occurs on Corps property the responder shall verify that the spill falls within incidental spill guidelines. In most cases the site supervisor will direct the response and cleanup (see section 7, "Incidental Spill Response").

When a *spill emergency* occurs on or in the vicinity of the project the responder becomes responsible for contacting the control room. Following notification the Operator In Charge (OIC) will notify the Project ECC and Project Management Staff in accordance with project specific emergency notification call-down lists. The Project ECC, or designated backup, will perform a site assessment to determine containment, and control actions to the extent possible. The following sections of this plan provide a more detailed description of the characteristics, examples, and appropriate response actions for both incidental spills and spill emergencies.

7. INCIDENTAL SPILL RESPONSE

An "Incidental Spill Response" occurs when a small quantity of oil or a hazardous substance is spilled and the substance can be absorbed, neutralized or otherwise controlled at the time of the release by employees in the immediate release area. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e. fire, explosion, or chemical exposure) are not emergencies and may be handled under the Hazard Communication Standard. However, incidental spills may still be considered reportable quantity spills requiring additional notifications to federal and state authorities. ALWAYS notify the Project ECC to make the determination for reporting.

a. Incidental Spill Characteristics. To help the OPM and Spill Responders understand what is considered an "Incidental Spill", the following guidelines are provided.

b. Incidental Spill Examples. Examples of "Incidental Spills" which are cleaned up under the Hazard Communication Standard are:

- A leaking valve has filled a transformer containment structure at a powerhouse with approximately 50 gallons of hydraulic oil. None of this oil has escaped or contaminated water. The maintenance foreman shuts down the valve and cleans up the spilled oil under the Hazard Communication Standard.

- An air compressor valve fails and releases 5 gallons of oil. The oil forms a puddle on the machinery room floor, but none goes down a floor drain. The spill is reported to the control room and maintenance personnel safely clean up the oil around the compressor. Since no oil made it to the environment no regulatory notifications were made so this release may be cleaned up under the HAZCOM Standards.

- A summer paint crew unloading paint for use in a campground drops a 45-gallon container onto the pavement. All of the paint was spilled. It is a hot day and the paint begins to dry. The crew leader directs his workers to scrape the paint off the pavement for disposal

c. Incidental Spill Response Actions. *For incidental spills the following actions shall be taken:*

- The supervisor in charge of the work area shall determine whether the spill is incidental or a spill emergency. The Project ECC should always be notified regardless of the type of spill.

- The supervisor in charge of the work area shall direct the incidental spill cleanup using personal protective equipment specified on the MSDS for the product. The spill area shall be closed off to prevent unauthorized entry and exposure. No further actions are required.

- In the event the spill is a reportable quantity, the control room shall be immediately notified and proper notification shall be made in accordance with project specific emergency notification call-down lists.

8. EMERGENCY SPILL RESPONSE

For purposes of this Plan, a "Spill Emergency "occurs when;

Emergency response or ***responding to emergencies*** means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance (29 CFR 1910.120).

Responses to discharges of oil or releases of hazardous substances where there is a potential safety or health hazard (i.e. fire, explosion, or chemical exposure) are emergencies and shall be handled using emergency procedures identified in this Spill Plan.

a. Emergency Spill Response Characteristics.

Actions to spills additionally fall under Environmental Protection Agency (EPA) standards. The EPA has also defined Emergency "Spill Events" for Oil and Hazardous Substances under the "National Contingency Plan", or NCP. The NCP defines an "Oil Spill Event" as "....discharges of oil into or upon the navigable waters of the United States or adjoining shorelines in such quantities that it has been determined may be harmful to the public health or welfare of the United States..."

The NCP defines a "Hazardous Substance Spill Event" as "....a 'reportable quantity' of a hazardous substance released into the navigable waters of the United States within a 24-hour period." A "Reportable Quantity "Spill is defined in Annex 4, Definitions. Since as little a one pound of a hazardous substance released into a water body could result in a reportable quantity release all responders shall assume that any chemical release to a water body requires an emergency response until proven otherwise. For releases of oil, a reportable quantity spill is any non-permitted discharge of oil which creates a visible sheen of oil on a waterway or a quantity of 42 gallons or greater on land.

Hazardous materials spills that violate water quality standards are often difficult to detect and may not offer effective recovery options. At a minimum, prompt reporting and damage assessment shall be performed, along with product recovery if possible. To help the OPM and Spill Responders better understand what is considered a "spill emergency", the following guidelines are provided. A *"Spill Emergency*" is a spill that:

- Is a known or unknown substance that presents a health or safety hazard to the employee(s) performing the cleanup, or
- Is a "reportable quantity" oil discharge or hazardous substance release, or
- Has contaminated or has the potential to contaminate soil or water, or*
- Cannot be safely cleaned up by employees in the immediate release area without outside assistance

* See section 7, “Incidental Spill Response” for incidental responses to oil spills.

b. Examples of Emergency Spill Response. Examples of spill emergencies which must be responded to under this Spill Response Plan include:

- An unpleasant odor in a 20-yard dumpster is reported by the camp host at a Corps campground. Two Responders approach the dumpster from upwind and observe uncommon chemical products on the ground. They determine the product to be an “unknown.” They leave the area and establish site control. They report the situation to the Control Room and secure the scene with danger tape. No one is allowed entry until HAZWOPER-trained personnel assess the situation and take appropriate action.

- A semi-trailer truck has been involved in an accident next to a popular Corps campground. Both diesel tanks have ruptured and the fuel has saturated gravel for about 100 feet. Rain is in the forecast. Corps Rangers secure the scene and deploy containment boom along the shore. They contact the trucking company representative and request that the spill be cleaned up immediately by HAZWOPER-trained personnel.

- Streams of oil are observed flowing out of a gate-well and into the tailrace at a Corps Dam. After careful research, the oil is determined to be from a hydraulic apparatus that contains 500 gallons of oil. It appears most of the oil has leaked out.

c. Emergency Spill Response Actions.

1. If there is an imminent or actual spill emergency the OPM will immediately determine if the spill is “On-Project” or “Off-Project.”

2. Follow the Spill Action Plan Responder Guidelines at the front of this Plan.

9. OTHER PROCEDURES

a. Funding. Funds will be provided for charges related to response and cleanup of Corps spills from the responsible project. Reimbursement for charges related to non-Corps spills will be sought from the responsible party.

b. Local Agencies or Contractor Response. Containment, control and cleanup of spill emergencies usually requires outside assistance. Resources may include Hazmat Fire Service Teams and/or Corps Spill Response Contractors. Each of these teams comes with their own internal structure and leadership. All responders shall report to the designated Incident Commander. For hazardous substance spills, Hazmat Fire Service teams and/or Corps Spill Response Contractors shall be the primary responders. A list of Corps Emergency Spill Response Contractors is provided in Annex 3.

c. Safety and Spill Response Equipment. Standard safety equipment on the project includes hard hats, protective wet gear, rubber boots, life vests and insulated gloves. During night-time

operations personal headlamps and auxiliary lighting is required to provide additional worker safety. Project Responders dispatched to investigate a spill should carry binoculars; current copy of the Plan; field book; DOT guidebook; radio; and cellular phone. If a camera is available photographs should be taken from a safe upwind location showing the source and the extent of the polluting spill.

Spill response equipment varies by project. At a minimum, pre-positioned oil absorbent, pads and booms should be strategically located throughout each project. Response equipment should be provided to enable containment or control of the worst possible spill event occurring at the project. The Project SPCC Plan has a drawing of spill kit types and locations in Section 10.

d. Evacuation and Site Control. The OPM) has the responsibility to determine evacuation and site control requirements. In the interim period before the OPM arrives, the senior member of Project Management shall establish site control. If the substance involved in the spill poses a direct threat to health and safety an evacuation of the area may be initiated. Under these unusual conditions the best method for evacuating areas may be through the use of project staff and/or local law enforcement and fire service resources. If off-project evacuation of citizens is necessary, it shall be performed by and with the concurrence of local authorities. Evacuation of Corps-owned property is within the authority of the OPM or designated representative and should be accomplished using Project specific site evacuation plans in accordance with CENWW-OD SOP 1130-2-500, Emergency Preparedness at NWW Operating Projects.

For building or facility evacuation, follow procedures outlined in the Operational Project Emergency Action Plan 29 CFR 1910.38(a).

e. Special Cases. There are a number of spill scenarios that occur at Corps projects that require special consideration. These include Floating Drums; Illegal Dumping; Spills on Leased/Outgrant Property; and Spills at Construction sites by Corps and Non-Corps Contractors. Each case is briefly discussed.

(1) Floating Drums. On a periodic basis floating drums may appear in waters of the State impounded by Corps dams. Common practice with these containers is to notify the Oregon DEQ or the Washington DOE and to support their respective recovery mission to the extent possible. In the event that the respective state agency chooses to not remove the drums, the OPM shall decide, on a case by case basis, whether or not the container poses a threat to the authorized project functions and to order its removal. If the OPM does order the removal the operation shall be considered a potential Spill Emergency and performed under the strict safety protocols of the HAZWOPER standard. Responders may remotely recover drums, but close or direct contact is limited to 40-hour trained HAZWOPER teams. All rogue drums removed by the Corps shall be reported to the Oregon Department of Environmental Quality (ODEQ) or the Washington Department Of Ecology (WDOE) for guidance on characterization and disposal.

(2) Illegal Dumping. Hazardous materials are periodically disposed of on public property. When this occurs an emergency response or expedited cleanup may be required. Given that illegally discarded materials have unknown contaminants, only professional HAZWOPER – trained teams will be used to perform these cleanups. Increases in drug lab disposals, with

extremely hazardous components further emphasize the need for a professional response. The ODEQ or the WDOE will be called in to clean-up any discovered methamphetamine labs.

(3) Spills Onto Leased/Outgrant Property. Lessees and Outgrantees are responsible for compliance with the same spill prevention and response laws as Corps-managed property and shall be held accountable to these laws. The "spiller" on any leased or outgranted property shall be responsible for removing the spilled material and restoring the site to its original condition. Full compliance with the HAZWOPER standard and all state and federal cleanup standards is required of the spiller. Should a lessee/outgrantee be non-responsive to a spill emergency they have caused or is subject to their control, the Corps shall respond to the spill and seek cost reimbursement from the lessee/outgrantee. Should a spill event occur outside the span of control of the lessee/outgrantee and the responsible party does not take appropriate cleanup actions, the Corps shall respond to the spill and seek cost reimbursement from the responsible party.

(4) Spills at Construction Projects – Corps Property. If a Construction Contractor creates a spill emergency on Corps property he/she shall immediately secure the scene and implement their (Contractor's) spill response plan. The Construction Branch personnel responsible for the contract shall ensure this action takes place effectively and immediately. In the event that the Contractor has no plan the contractor shall use the Corps plan. Construction Branch will insure that the Contractor's plan provides a level of protection equal to the Corps plan and complies with State and Federal health, safety and environmental protection requirements. The Contractor shall coordinate with the designated Construction personnel, or in their absence, the designated Incident Commander to ensure that the spill response is safely conducted and the site restored to its original condition.

(5) Spills at Construction Projects – Non-Corps Property. If a Contractor creates a spill emergency on non-Corps property, the Contractor shall immediately secure the scene and implement their (Contractor's) spill response plan. The Construction Branch personnel responsible for the contract shall ensure this action takes place effectively and immediately. In the event that the Contractor has no plan the Contractor shall use the Corps plan. This plan may be supplemented by utilization of spill response contractors. Priorities of people, environment and property shall remain unchanged regardless of which plan is being followed.

(6) Acts of Terrorism. Some Corps projects are known to be potential terrorist targets. In the event of a terrorist attack, immediately contact the Walla Walla District Security Office and the National Response Center. Follow procedures outlined in the CENWW-OD SOP 1130-2-500, Emergency Preparedness at NWW Operating Projects.

10. SAFETY AND HEALTH

During emergency spill response operations, careful attention to safety and health is required. If Responders are to be used for containment, control or limited cleanup activities a Safety Officer shall be designated. If a Safety Officer is not designated this duty shall become the responsibility of the OPM. This individual shall assess safety and health requirements for Responders prior to work being performed and determine effective countermeasures to control all known hazards. In

addition, the Safety Officer shall prepare a written Activity Hazard Analysis. A suggested Activity Hazard Analysis is provided in Annex 2.

11. SPILL RESPONSE CONTRACTING PROCEDURES

Immediate Contractor assistance is often required to achieve successful containment, control and cleanup of hazardous substances or oil during spill emergencies. For smaller events, operating projects may use local spending authority to obtain contractor assistance. For larger spill events the following sequence of operations shall be utilized:

a. **Contact a Corps Contracting Officer**. Contact one of the Walla Walla District's Authorized Contracting Officer(s) in accordance with project specific emergency notification call-down lists.

b. **Request a Qualified Spill Response Contractor.** Qualified contractors exist in the Portland and Walla Walla District's that are capable of providing emergency spill response services and are listed in Annex 3. These contractors maintain full-time HAZWOPER trained employees who can perform a 4-person Level B (SCBA) hazardous substance emergency spill response. They also own/operate spill response equipment, oil-skimming vessels, vacuum trucks, salvage equipment, containment booms, etc. The requesting Incident Commander should make a rapid determination of what spill response company is most appropriate to respond to the particular emergency. Due to the extreme hazards associated with emergency spill response only qualified contractors shall be considered. The USCG and USEPA also maintain an active list of qualified contractors who may be utilized as appropriate.

c. **Provide the Contractor with Authorization to Proceed.** A Corps Contracting Officer shall be the approval authority for the response contractor. All contracts should include a "*not-to-exceed cost limitation."* On the next business day following the spill event, a requisition for services shall be prepared including an urgent and compelling justification; funds verification; and fund site.

d. **Execute Spill Response Operations and Cleanup**. The OPM, or designee, shall serve as the Contracting Officer's Representative and in this capacity review and approve or disapprove contractor actions prior to their execution. For large events, the Incident Commander shall establish a Finance Officer and track expenditures of all parties.

e. **Terminate Contractor Services.** When emergency conditions no longer exist, the Incident Commander shall terminate the contract and transition to non-emergency operations.

12. DISPOSAL OF POLLUTANT

Pollutants and contaminated materials that are recovered in cleanup operations will be disposed in accordance with applicable State and Federal regulations. These actions shall be performed by the designated Project ECC, or in the absence of a Project ECC, the District ECC.

13. REPORTING

A written report should be generated at the time of discovery using The Walla Walla District Commander's Critical Information Requirements (CCIR) as described in CENWW-RO (190) COMMANDER'S POLICY LETTER NO 10. Annex 1 of this plan has ICS Forms 201 and 202 that should be used to collect data during the spill event to assist in consistent and complete tracking of important information.

Timely updates should follow until the incident is resolved. Post-spill reporting is required by the National Contingency Plan under 40 CFR Part 300.115 for oil spill response and under 40 CFR Part 300.160 for hazardous substance, pollutants or contaminants. Specific forms and instructions for completing this task are available from the Oregon DEQ, Washington DOE, USCG or US EPA.

14. PUBLIC INFORMATION

The Public Affairs Office (PAO) representative will determine on a case-by-case basis what services shall be required. For larger events it may be necessary for a public affairs representative to go to the scene to assist in handling news media inquiries. For smaller events or prior to the arrival of a PAO representative the Incident Commander may choose to appoint an Information Officer to assist with on-site news media inquiries. All telephone media inquiries should be referred to the District PAO or the on-call public affairs specialist.

Discussions with the news media will be limited to Corps of Engineers actions and appropriate project information. POC's for other agency's spokespersons will be provided to the news media. To the extent possible and appropriate, the PAO representative shall coordinate with District Counsel prior to releasing official statements. When the U.S. Coast Guard or the Environmental Protection Agency is involved in the spill their offices will be responsible for handling public information matters unless otherwise delegated. The Corps PAO will either coordinate joint news releases with other involved agencies about the Corps involvement or issue separate news releases as appropriate.

15. TRAINING

a. Hazard Communication Training. All Responders and Incident Commanders require appropriate training to become compliant with the "hazardous of non-routine task" section of the project-specific Hazard Communication Plan. They shall be made aware of potential hazards that are non-routine and respond appropriately following procedures in this Spill Action Plan and the Operational Project Hazard Communication Plan. Responders will also become familiar with the Incident Command System. All Responders and Incident Commanders must be familiar with the hazards that project chemicals may present.

A formal record indicating the date of the course, hours of training and subject matter covered should be maintained by the project office.

b. Incident Command System Training. Incident Commanders are required to complete training on the Incident Command System. Annual refresher training shall be conducted to maintain their competency. Training shall utilize tabletop exercises, video resources, and hands-on experience to achieve the required competencies. This course should include implementation of the project's Spill Action Plan. A formal record indicating the date of the course, hours of training and subject matter covered should be maintained by the project office.

c. Hazardous Waste Operations and Emergency Response (HAZWOPER) Training. Due to the remote location and significant risk of oil spills to the river, the Walla Walla District Operating Projects should train and maintain an In-House Spill Response Team in accordance with ER 200-2-3. These teams can provide initial emergency spill response needs until full scale emergency spill responders can arrive at a spill site. USACE personnel would typically be trained and qualified at the "First Responder, Operations Level" of OSHA regulations 29 CFR 1910.120(q). This level of training can be accomplished with a modified 24-Hour HAZWOPER initial training followed by 8-Hour Annual Refreshers.

16. DISTRIBUTION

In accordance with federal, state and local regulations, a copy of this document is provided to spill response agencies and all other interested parties. Project-specific annexes have been removed to protect Privacy Act information. To conserve natural resources, this plan is also available via electronic format.

ANNEX 1: ICS 201 AND 202 FORMS

1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 1 of 4)

Map/Sketch (include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, Impacted shorelines, or other graphics depicting situational and response status)

1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 2 of 4)

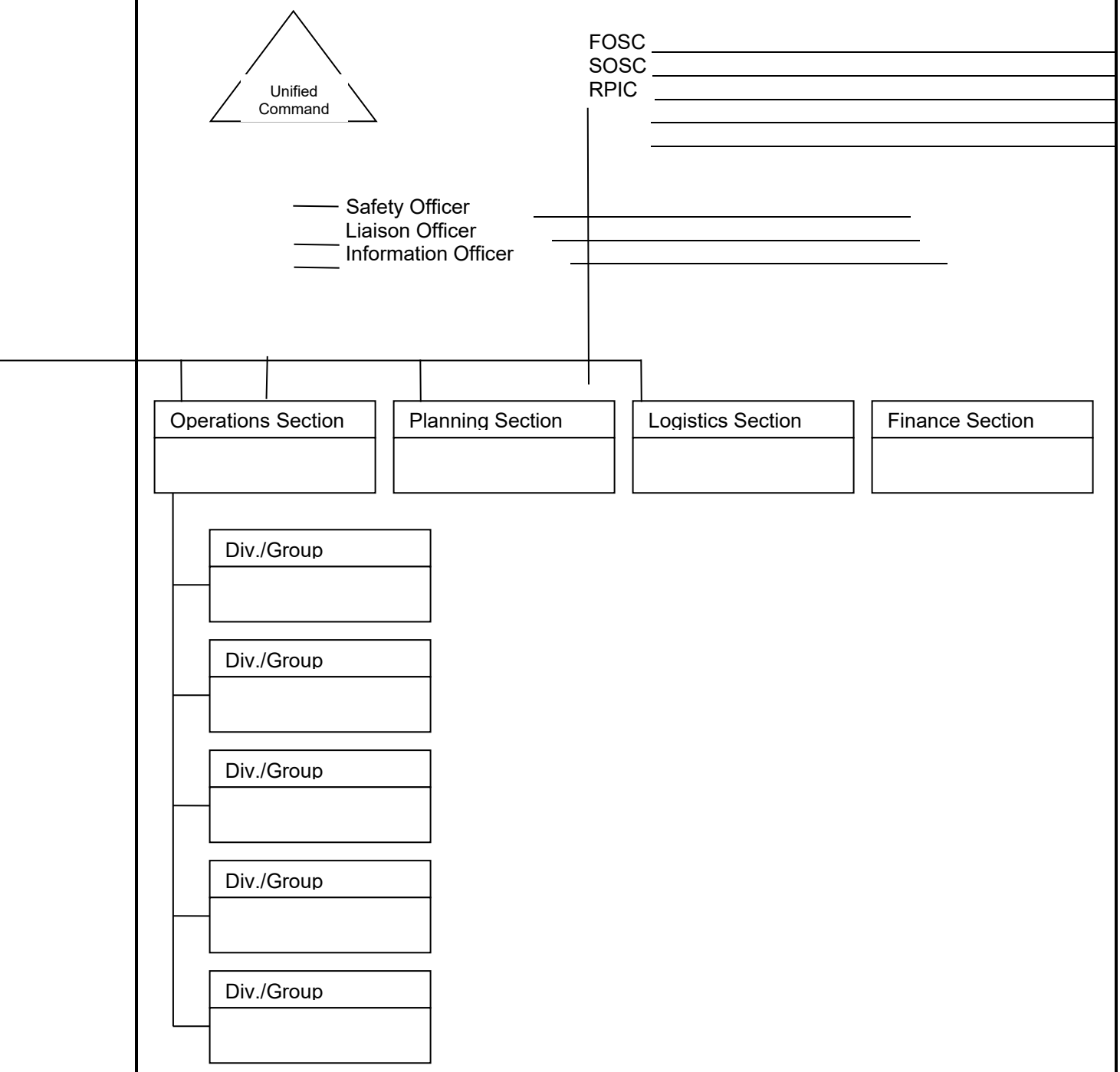
4. Initial Incident Objectives

5. Summary of Current Actions

Time	Action/Note

1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 3 of 4)

3. Current Organization



1. Incident Name	**2. Prepared by:** (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 4 of 4)

7. Resources Summary

Resources Needed	Time Ordered	Resources Identifier	ETA	On-Scene? (X)	NOTES: (Location/Assignment/Status)

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT OBJECTIVES ICS 202-OS

3. Overall Incident Objective(s)

4. Objectives for specified Operational Period

5. Safety Message for Specified Operational Period

Approved Site Safety Plan Located at:

6. Weather **See Attached Weather Sheet**

7. Tides/Currents **See Attached Tide/Current Data**

8. Time of Sunrise **Time of Sunset**

9. Attachments (mark "X" if attached)

- ☐ **Organization List (ICS 203-OS)**
- ☐ **Assignment List (ICS 204-OS)**
- ☐ **Communications List (ICS 205-OS)**
- ☐ **Medical Plan (ICS 206-OS)**
- ☐ **Incident Map(s)**
- ☐ **Traffic Plan**
- ☐ **Resource at Risk Summary (ICS 232-OS)**
- ☐ _____
- ☐ _____

10. Prepared by: (Planning Section Chief) **Date/Time**

ANNEX 2: SPILL EMERGENCY - ACTIVITY HAZARD ANALYSIS

Site Safety Officer: _____
Date/Time/Location:_____

ACTIVITY	HAZARD	CONTROL
1.Site Assessment	Fire & Explosion	Responders will approach the site upwind using "buddy system" for purposes of establishing a safe perimeter. To avoid fire/explosion hazard a strict no-smoking zone will be enforced and no devices will be brought into the spill area that could become a source of ignition.
	Asphyxiation	Responders will remain upwind and not enter the spill area. Spills in enclosed or confined spaces are particularly dangerous. No entry is authorized.
	Inhalation Hazard	If unknown materials are involved in the spill, or if known materials are mixed, immediately withdraw to a safe upwind location. If either known or unknown materials are involved in combustion, do not approach site. Air monitoring for oxygen, explosivity, and toxins may be required before crews can safely enter.
2.Site Security	Vehicle & Pedestrian Accidents	Road closures and site security should be established with high-visibility glow-sticks (avoid use of flares). Utilize orange warning lights, glow-sticks on helmets, high visibility vests and danger/caution signage well in advance of site. Obtain assistance from law enforcement for traffic & pedestrian control.
3.General Site Work	Slips, Trips, Falls	Responders shall follow standard project work practices. Emergency condition does not waive clothing, helmet, footwear, etc. requirements.
	Illumination	Work areas shall be adequately illuminated by the most practical means available. This may include portable lights, hand-held lights, or headlamps. Work shall be delayed until adequate lighting is provided.
4.Working Around Waterways	Drowning, Hypothermia	Responders shall wear Personal Floatation Devices while working on/near water. This includes shorelines. During cold weather conditions boat crews will wear immersion jackets or suits following standard project work practices. "Throw Bags/Ropes" designed for rescue work shall be on-site at all times. Water rescue services shall be pre-determined by the Safety Officer who shall ensure that immediate response capability exists during all work periods.
5.Oil Spill Cleanup	Chemical Exposure	Responders shall not perform oil spill cleanup unless it falls under incidental spill. If the spill cannot be cleaned up under the Hazard Communication Standard, HAZWOPER-trained contractor services must be called.

ANNEX 3: SPILL EMERGENCY - CONTRACTORS

Note: The following contractors are signatory to the USCG Basic Ordering Agreement (BOA)* and therefore have pre-priced all goods and services. Contracts may be established with these companies using the USCG BOA. All actions should include a not-to-exceed clause and be approved by a District Contracting Officer prior to commencing work. Alternative Contractors may be utilized provided they meet or exceed the qualifications or expertise of BOA Contractors and adhere to strict health, safety and environmental protection standards.

Contractor	24-Hour Tele. No.	Expertise
NRC	800-337-7455	Oil & Hazardous Substance Spills, Land & Water

* The USCG Basic Ordering Agreement (BOA) is an agreement between the USCG, Maintenance and Logistics Command – Pacific, and numerous spill response firms located in the Pacific area. Walla Walla District has been included on each of the above BOA's as an "Authorized Ordering Office". The contract scope includes "Services, materials and equipment to contain, cleanup, and/or mitigate the harmful effects of oil and hazardous substance spills on or in waters subject to the jurisdiction of the United States as well as the bottoms and adjoining shorelines of such waters" (USCG BOA, Section C, Description/Specifications, 1997).

ANNEX 4: DEFINITIONS

Chief, Contracting Division. The Chief, Contracting Division is responsible for providing emergency contracting services. This includes providing after-hours telephone numbers for three Contracting Officers who have authority to contract for spill response services. During spill emergencies, contracting shall be expedited in the interest of health and safety and the environment.

Chief, Operations Division. The Chief, Operations Division is responsible for providing resources to the Operations Managers to effectively train, exercise, and respond to spills. The Operations Division Chief is also responsible for providing adequate resources to the District ECC to enable annual revision of the Spill Response Plan; annual refresher training for designated Incident Commanders; and appropriate field exercises. Finally, the Chief, Operations is the approval authority for this Spill Response Plan following coordination and consultation with other key District elements.

Chief, Public Affairs Office. The Chief, Public Affairs Office is responsible for providing accurate and current information to the public, as well as Corps employees, about an incident in a timely manner. The PAO will also provide Incident Commanders with information about opportunities for media and crisis communication training and with "Working with the News Media" tips. Additional description of this responsibility is provided in Section 15, "Public Information."

Chief, Readiness Branch. The Chief, Readiness Branch is responsible for providing situation reports to Division and Headquarters offices following major spill events; coordinating support for major spills and staffing the Emergency Operations Center as appropriate.

Commander, Walla Walla District. The Commander, Walla Walla District has the overall responsibility for ensuring that effective spill response plans are prepared and spill responses are safely and efficiently executed. The Commander shall ensure that the Chief, Operations Division has the resources and authority to carry out these assignments.

Construction Projects. For the purpose of this Plan construction projects include the field activities of supply contracts, construction contracts and small purchase contracts where the Resident Engineer is designated responsibility for overseeing contractor field activities.

Discharge: "Discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of *oil*, but excludes discharges in compliance with a permit under section 402 of the CWA [NCP].

Discharge of Oil – Size Classifications. Refers to size classes of oil discharges provided as guidance to the On-Scene-Coordinator (OSC). They are not meant to imply associated degrees of hazard to public health or welfare of the United States, nor are they a measure of environmental injury. Any oil discharge that poses a substantial threat to public health or welfare of the United States or the environment or results in significant public concern shall be classified as a major discharge regardless of the following quantitative measures:

(1) Minor discharge means a discharge to the inland waters of less than 1,000 gallons of oil or a discharge to the coastal waters of less than 10,000 gallons of oil.

(2) Medium discharge means a discharge of 1,000 to 10,000 gallons of oil to the inland waters or a discharge of 10,000 to 100,000 gallons of oil to the coastal waters

(3) Major discharge means a discharge of more than 10,000 gallons of oil to the inland waters or more than 100,000 gallons of oil to the coastal waters [NCP]

District Environmental Compliance Coordinator (District ECC): The District ECC coordinates the Spill Program. This includes annually updating the Spill Plan to ensure that it meets applicable regulations and field requirements. In addition, the District ECC provides coordination and technical assistance as requested during spill emergencies; coordinates annual training for Incident Commanders and First Responders; and provides exercises to field projects on request. For larger spill events, the District ECC coordinates additional District resources as needed.

District Safety Officer: The District Safety Officer is responsible for providing safety and health oversight on all activities in the Walla Walla District including the spill response program. This includes planning, exercises, training and response operations. The District Safety Officer also provides technical advice and guidance on specific topics pertinent to spill response operations.

Federal On-Scene Coordinator (FOSC): Individual pre-designated by the EPA, USCG, Department of Energy or Department of Defense (DOD) to coordinate and direct Federal responses in accordance with the National Contingency Plan [NCP]. For discharges of oil or releases of hazardous substances when the discharge or release is on, or the sole source is from, any facility or vessel under the jurisdiction, custody or control of the US Army Corps of Engineers-Walla Walla, the EPA shall be utilized as the FOSC.

Geographic Response Plan (GRP): Appendices to the NWACP. Describes resource priorities, protection and cleanup strategies, and local logistical information. Generally used on larger spill events to help determine the best use of limited resources.

Hazard Communication Standard: Common term used to describe OSHA's 29 CFR 1910.1200, "Hazard Communication," which covers the physical or health hazards employees encounter while working with chemicals during routine or non-routine operations.

Hazardous Substance: Substances capable of doing harm to human health or the environment. As defined by the National Contingency Plan, "Any substance designated pursuant to section 311 of the Clean Water Act; any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act; any toxic pollutant listed under section 307(a) of the Clean Water Act; any hazardous air pollutant listed under section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture

with respect to which the EPA Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act" [NCP].

HAZWOPER: Common acronym for OSHA's 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," which covers among other subjects, employees responding to hazardous substance releases.

Hazardous Substance Release Classification: Size classes of releases refers to the following size classifications which are provided as guidance to the OSC for meeting pollution reporting requirements in subpart B (of the National Contingency Plan). The final determination of the appropriate classification of a release will be made by the OSC based on consideration of the particular release (e.g., size, location, impact, etc.):

(1) Minor release means a release of a quantity of hazardous substance(s), pollutant(s), or contaminant(s) that poses minimal threat to public health or welfare of the United States or the environment.

(2) Medium release means a release not meeting the criteria for classification as a minor or major release.

(3) Major release means a release of any quantity of hazardous substance(s), pollutant(s), or contaminant(s) that poses a substantial threat to public health or welfare of the United States or the environment or results in significant public concern [NCP].

Incident Action Plan (IAP): Short, concise response plan developed by the designated Incident Commander prior to initiating response actions for each operation period. Includes strategic goals (what to do) and tactical objectives (who will do & how). (ICS 201 and 202 forms, annex 1)

Incident Commanders: Individuals designated by the Operations Manager (or vessel Captain) to be responsible for managing spill emergencies. Incident Commanders shall be thoroughly familiar with and able to execute the project's Spill Plan. They shall be familiar with both the Northwest Area Contingency Plan and the National Contingency Plan. During spill events, Incident Commanders are responsible for determining incident priorities, strategic goals and tactical objectives; developing an "Incident Action Plan;" establishing an incident command structure; and assessing response needs and directing resources to meet those needs. Incident Commanders are also responsible for preventing injuries and/or deaths of response personnel. To maintain expertise, Incident Commanders are required to complete annual refresher training.

Incident Command System (ICS): The Incident Command System is an "all risk" management system designed to allow for the day-to-day management of response efforts from the very small to the largest incidents involving multi-agency jurisdictions. The ICS uses an Incident Commander to lead the response effort as well as a Safety Officer and Operations, Planning, Logistics, and Finance Chiefs for support.

Incidental Spill: An incidental spill is a release of a hazardous substance where the substance can be absorbed, neutralized, or otherwise controlled at the time of the release by employees in the immediate release area, or by maintenance personnel. Responses to releases of hazardous substances where there is no potential safety or health (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses and can be handled under the Hazard Communication Standard.

Lead Responder: The responder who takes charge of an oil discharge or hazardous substance release until a designated Incident Commander arrives at the scene. Usually will be a crew leader, foreman, or field supervisor.

Material Safety Data Sheet (MSDS): Written or printed document containing safety, health and environmental information about a hazardous chemical.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): A comprehensive plan included under CERCLA "to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants and contaminants" (NCP).

Northwest Area Contingency Plan (NWACP): The primary spill preparedness and response-planning document for the Pacific Northwest and an extension of the NCP. The NWACP is the summation of policies and procedures for two Coast Guard Captain of the Port Zones, EPA Inland Region Ten, and for the States of Oregon, Idaho, and Washington. It provides federal, state, and local responders in the Pacific Northwest a single comprehensive planning and response document [NWACP].

Office of Counsel: The Office of Counsel is responsible for providing legal review and advice to help assure compliance with Federal and State laws and regulations. During spill emergencies the Office of Counsel shall be kept informed by the Operations Manager (or their designee) and shall be available for consultation with the designated Incident Commander.

On Scene Coordinator (OSC): Federal, State or Local representative responsible for managing an oil or hazardous substance spill emergency. Common designations include FOSC and OSC respectively. On Scene Coordinators typically work together within a Unified Command, along with the Responsible Party (RP) and Tribes, to accomplish their tasks.

Operations Manager: The Operations Manager (OM) is the US Army Corps of Engineers senior manager in charge of a Corps facility. The OM is responsible for assigning work and committing resources. The OM is also responsible for the prevention of, and response to all discharges of oil or releases of hazardous substances occurring on the project except for Construction Projects under the control of the Resident Engineer. The OM ensures that the project's Spill Plan is current and that all Incident Commanders and Responders are properly designated, equipped, trained and exercised. The OM shall provide resources to the Incident Commander to safely and effectively respond to spills.

OSHA Emergency Action Plan: A facility based plan required by OSHA for the protection of workers expected to react to emergencies. This Spill Plan has been prepared as part of the requirements of an OSHA Emergency Action Plan.

Project Environmental Compliance Coordinator (Project ECC): The Project ECC is responsible for coordinating environmental compliance programs at the operational project. In the event of a spill emergency, the Project ECC serves as one of several designated Incident Commander's. All post-spill cleanup, waste disposal and reporting activities are coordinated through the Project ECC.

Project Safety Coordinator. At some Corps projects, a Project Safety Coordinator has been designated to coordinate safety programs. This function may be incorporated into the Project ECC position. During spill emergencies, the Project Safety Coordinator is expected to ensure that normal safety and health procedures are followed and that any excess risks to personnel are identified and properly controlled.

"Reportable Quantity" Spill: Non-permitted release of a hazardous substance into the environment within a 24-hour period of time and equal to or greater than a specific quantity in pounds. Environment is defined as air, land, surface water, and ground water. Quantities are identified in several tables, which are as follows. A "*CERCLA*" hazardous substance release equals or exceeds quantities specified in 40 CFR Table 302.4. A "*Clean Water Act*" hazardous substance release equals or exceeds quantities specified in 40 CFR Table 117.3. A "*SARA Title III*" "Extremely Hazardous Substance" equals or exceeds those specified in Appendices A and B of 40 CFR 355.20. A reportable quantity spill of oil occurs when oil is *discharged* without a permit into the environment and forms a sheen on water or adjoining shorelines; violates water quality standards; or causes a sludge or emulsion beneath the surface or on adjoining shorelines. These conditions represent a "Reportable Quantity Spill."

Regulatory Agency: Any Federal, State or local agency with the authority or responsibility for emergency spill response activities. Principal regulatory agencies within the Walla Walla District are US EPA, Region 10; USCG-Portland; Oregon Department of Environmental Quality; Washington Department of Ecology; Idaho Department of Environmental Quality; Oregon Emergency Management; Washington State Emergency Management Division; Fed-OSHA; Washington Department of Labor and Industries; Oregon-OSHA; County Governments; and local fire response organizations.

Resident Engineer: The Resident Engineer is responsible for providing oversight on District construction projects. For each project, a Project Engineer, construction representative, or inspector is assigned who reports to the Resident Engineer. Management of spills by Construction Contractors falls under the authority of the Resident Engineer.

Responders. Responders are Corps employees who have been trained and authorized to safely respond to spills and execute the Spill Plan. They may be required to manage the scene of a spill until an Incident Commander or alternate responds to the spill. Project Responders are required to complete training in accordance with the Hazard Communication Standard.

Safety Officer: Individual designated by the Incident Commander to prepare a site safety and health plan for response personnel; assess safety and health hazards on an ongoing basis; ensure daily or more frequent safety briefings are conducted; ensure response personnel meet OSHA training requirements; work with the Unified Command to ensure consistent safety standards are met by varying response agencies; establish personnel protective equipment and decontamination procedures; and work with local public health officials.

Spill Emergency: An emergency spill is a release of a hazardous substance where the substance cannot be absorbed, neutralized, or otherwise controlled at the time of the release by employees in the immediate release area, or by maintenance personnel. Responses to releases of hazardous substances where there is potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are considered to be emergency responses and shall be handled under the HAZWOPER standard.

Spill Prevention, Control, and Countermeasures Plan (SPCC): Facility oil spill preparedness and response plan. Detailed engineering document focused on oil spill prevention and control. Must be reviewed and certified by a Registered Professional Engineer familiar with 40 CFR Part 112, at the time of preparation and at least once every five years, and amended to include more effective prevention and control technology, if feasible. If oil spill containment will not completely prevent accidental discharge to navigable waters, a strong "oil spill contingency plan" is required. This District Action Spill Plan serves as the "oil spill contingency plan" in accordance with SPCC regulations.

Unified Command System: The Unified Command System is an extension of the Incident Command System where decisions are made with the joint input of several agencies representing their individual jurisdictions. The FOSC has ultimate authority to resolve any disputed decision and act appropriately.

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix C – Spill Report Form, Contact Phone Numbers, Oil Sheen Reference, and Phone Log

OIL SPILL INCIDENT REPORTING

ENV-SOP-1-OIL SPILL INCIDENT REPORTING

WALLA WALLA DISTRICT US ARMY CORPS OF ENGINEERS

ENV-SOP-1-OIL SPILL INCIDENT REPORTING

1. PURPOSE

The purpose of this SOP is to provide the Project ECC's with clear directions and procedures for filling out the Oil Spill Incident Report.

2. SCOPE

These procedures apply to all Project ECC's.

3. DEFINITIONS

1. Incident- Any oil spill that requires notification to the National Response Center.
2. Reportable Spill- A discharge from a vessel or onshore facility of a harmful quantity of oil to US navigable waters or adjoining shoreline.
3. Harmful Quantity- A harmful quantity is any quantity of discharged oil that violates state water quality standards, causes a film or sheen on the water's surface, or leaves sludge or emulsion beneath the surface.

4. PROCEDURES

All oil spills to water shall follow established oil spill response and reporting per the Project's SPCC plan. The Project ECC is responsible for filling out the Oil Spill Incident Report as soon as possible but not to exceed 2 weeks. In the event the Project ECC is not on site, the Chief of Tech shall be required to fill out the report.

1. Fill out all 8 questions of the report. Question 3 is where you want to explain the events that led to a reportable spill. Use a timeline if warranted.
2. Determine why the spill happened. Ask 5 "whys" or use another root cause analysis tool. Give a description of any changes to policy, procedures or training that will take place to ensure this does not happen again. Refer to questions 4 and 5 of the Oil Spill Incident Report.
3. Take pictures if warranted. Pictures of equipment are very helpful.
4. Ensure to engage the help of project employees in your investigation.
5. Send the completed copy to the District ECC.

1. Reporting Name:		2. Responsible Party:	USACE

3. Location: Little Goose Project, River Mile 70.3

3A. Specific Project Location:

4. Spill Description (Date, Time, Equipment, Product, Amount, etc):

Incident Date / Time:
Reported Amount:

5. Environmental Impacts (air, surface water, groundwater, fish, wildlife):

No visible wildlife or fish impacts. Absorbents were deployed

6. Reporting:

	Contact	Phone	Date & Time	Incident #	Contact
1	National Response Center	800-424-8802			
2	Washington Emergency Management Division (WEMD)	800-258-5990			
3	WDOE Spill Program	509-969-7750			
4	Walla Walla District ECC	509-527-7121			
5	Columbia County Sheriff	509-382-2518			
6	Washington State Patrol	800-283-7803			
7	EPA Region 10 Emergency Response Center	206-553-1263			

8. Incident Action Plan: Strategic Goals (what to do) and Tactical Objectives (who & how)

Strategic Goals	Tactical Objectives
a. Establish Site Security	
b. Evacuate Injured/Exposed	
c. Establish Incident Command	
d. Contain/Isolate Spill	
e. Initiate Spill Response	
f. Perform Hazard Assessment	

GENERAL INFORMATION

Name of Facility:	Little Goose Lock and Dam
Address of Facility:	1001 Little Goose Dam Road, Dayton, WA 99328
Location of Facility:	River Mile 70.3, Dayton, WA 99328
Operator of Facility:	USACE, Walla Walla District
Project Environmental Compliance Coordinator (ECC):	Jona

EMERGENCY CONTACTS

Ice Harbor Lock & Dam Staff

THE FIRST CALL made by the person identifying a spill is to the Control Room Operator.

Little Goose Dam Control Room	**Phone**
On Site	(509) 399-2233 or Code 80-111 X231, X233

The **Operator in Charge (OIC)** will notify one of the following **IMMEDIATELY, in the established order**, with available information until relieved of the responsibility to make the next call(s) on the list. If no one on the list can be contacted the OIC will notify the National Response Center (NRC) within one-hour of an oil spill that produces a sheen on the Snake River.

Contact	**Name**	**Phone**		
		Office	**Home**	**Mobile**
Primary Facility Contact Incident Commander, Operations Project Manager	Roger Golladay	(509) 399-2233 Ext.251 Pager 112	(b)(6)	
Facility Contact 2, Incident Commander, Project ECC	Jonathan Paull	Ext. 288 Pager 321		
Chief of Operations	Jeanette Wilson	Ext. 253 Pager 114		
Chief of Maintenance	Ben Fieder	Ext. 256 pager 161		
Chief of Technical Section	Amanda Collins	Ext.258 pager 169		
Mechanical Foreman	Roy Clark	Ext. 244		
Electrical Foreman	Scott Elder	Ext. 243		
Natural Resources Manager	Jason Achziger	509-751-0251		
USCG National Response Center (NRC)		(800) 424-8802		
Washington Emergency Management Division		(800) 258-5990		
Walla Walla District ECC	Don Redman	(509) 527-7121		

Walla Walla District Executive Staff

After notifying the appropriate Ice Harbor staff, management may notify the following (as necessary):

Contact	Name	Phone		
		Office	Home	Mobile
Chief of Operations	Rick Werner	(509) 527-7101		
Assistant Chief of Operations	Andrea Valentine	(509) 527-7102		
Public Affairs Office	On-Call Person	(509) 527-7020		
Chief, Natural Resource Management	Joyce Dunning	(509) 527-7131		(b)(6)
Lead Fish Biologist	Ann Setter	(509) 527-7020		
Chief, Readiness Branch	Val Bogdanowitz	(509) 527-7041		
District Commander	Damon Delarosa, LTC	(509) 527-7700		
Deputy District Commander	Gregory Polk, MAJ	(509) 527-7702		

Additional Project Information & Specific Contacts

The Project ECC and/or management may notify the following depending on the situation.

Contact	Name (if applicable)	Phone	
		Office	Mobile
Washington Department of Ecology, Eastern Regional Office		(509) 239-3400	
EPA Region 10 SPCC Coordinator	Richard Franklin	(503) 326-2917	
Washington State Patrol		(800) 283-7803	
Columbia County Sheriff (Non-Emergency)		(509) 382-2518	
Walla Walla County Sheriff (Non-Emergency)		(509) 773-4545	
EPA Region 10 Emergency Response Center		(206) 553-1263	

Prior to calling outside spill response organizations, **NWW District Contracting** approval must be obtained.

Contact	Name	Phone		
		Office	Home	Mobile
Chief, Contracting Division	Ruthann Haider	(509) 527-7201	(509) 876-4200	(b)(6)
Contract Specialist	Camilla Allen	(509) 527-7213		
Spill Response Contractors – USCG Blanket Operating Agreement (BOA)		NRC Environmental	(800) 337-7445	

Standard Terms for High Viscosity Oil Films and Descriptive Appearance of High Viscosity Oil on Water

Standard Term	Approximate Quantity of Oil in Film		Appearance
	Gallons per Square Mile	Liters per Square Kilometer	
Barely	25	44	Barely visible under most favorable light conditions.
Silvery	50	88	Visible as a silvery sheen on water surface.
Slightly	100	176	First trace of color may be observed.
Brightly	200	351	Bright bands of color may be observed.
Dull	666	1,168	Colors begin to turn dull brown.
Dark	1,332	2,337	Colors are much darker brown or black.

NOTE: Each 1-inch thickness of oil equals 5.61 gallons per square yard or 17,378,909 U.S. gallons per square mile.

STANDARD TERMS AND CONVERSION TABLE

Knowing	Multiply by factor below to obtain U.S. Gallon	U.S. Barrel	Cubic Feet	Liter
Gallon (U.S.)	1.0000	0.02381	0.13368	3.785
Barrel	42.0000	1.00000	5.6146	158.930
Cubic Feet	7.4805	0.1781	1.0000	28.310
Liter	0.2641	0.00629	0.03532	1.000

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix D –

Inspection Checklists

Powerhouse Containers and Oil-Filled Operating Equipment							
System	**Container Description**	**Location**	**Contents**	**Capacity**	**Alarms**	**Inspections**	**Spill Response**
Oil-Filled Operating Equipment							
Fish Pumps	Pump # 1	Powerhouse (El. 505)	Gear Oil	**113 gallons each**	None	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Pump # 2						
	Pump # 3						
Lower Guide Bearings	Unit # 1	Powerhouse (El. 542)	Turbine Oil	**450 gallons each**	Yes		
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Turbine Governor Sump Tank	Unit # 1			**3,020 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4			**3,400 gallons each**			
	Unit # 5						
	Unit # 6						
Turbine Hub	Unit # 1			**2,260 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Turbine Governor Accumulator Oil Tank	Unit # 1	Powerhouse (El. 558)		**3,680 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4			**5,520 gallons each**			
	Unit # 5						
	Unit # 6						
Turbine Thrust Bearing	Unit # 1			**2,500 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						

Powerhouse Containers and Oil-Filled Operating Equipment							
System	**Container Description**	**Location**	**Contents**	**Capacity**	**Alarms**	**Inspections**	**Spill Response**
Upper Guide Bearing	Unit # 1	Powerhouse (El. 558)	Turbine Oil	**170 gallons each**	Yes	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Turbine Guide Bearing	Unit # 1			**100 gallons each**			
	Unit # 2						
	Unit # 3						
	Unit # 4						
	Unit # 5						
	Unit # 6						
Transformers	TO1		Transformer Oil	**1,150 gallons**			
	TO2			**1,400 gallons**			
Storage Containers							
Oil Storage Room	Clean Lube Oil	Powerhouse (El. 498)	Turbine Oil	**10,000 gallons each**	Yes	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Dirty Lube Oil						
	Clean Trans Oil		Transformer Oil	**20,000 gallons each**			
	Dirty Trans Oil						
Emergency Diesel Generator AST	DT-1	Powerhouse (El.558)	Diesel	**3,000 gallons**	None		
Emergency Diesel Generator	DT-2			**600 gallons**			
Gravity Lube Oil Tank	NA	Powerhouse (El. 618)	Turbine Oil	**500 gallons**			

Powerhouse Containers and Oil-Filled Operating Equipment							
System	**Container Description**	**Location**	**Contents**	**Capacity**	**Alarms**	**Inspections**	**Spill Response**
Portable Storage Containers							
Shop-built Drums	NA	Oil Storage Room (El. 494)	Used Oil, Non-Haz. Liquid Waste	Varies	None	Daily operator rounds and monthly visual inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
Shop-built Drums	NA	Oil Purification Room (El. 498)	Oil, Solvent, Grease				
Shop-built Drums	NA	Haz. Waste Storage Area (El. 498)	Hazardous Waste				
Shop-built Drums	NA	Fish Attraction Gear Boxes (El. 505)	Oil, Non-Hazardous Liquid Waste				
Shop-built Tanks	Portable Used Oil Tank	Powerhouse (El. 558)	Used Oil	**900 gallons**			
Shop-built Tanks	Portable Used Oil Tank		Used Oil	**500 gallons**			
Shop-built Tanks	Portable Grease Tank		Grease	**55 gallons**			
Shop-built Tanks	Portable Diesel Tank		Diesel	**100 gallons**			
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**148,284 gallons**			

Potential Discharge Volumes and Flow Direction of Powerhouse Containers & Oil-Filled Operating Equipment					
Type of Failure[1]	**Potential Discharge Volume[2]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Transformers TO1 & TO2					
Gasket joint (mechanical joint) leak	1 – 1,400 gal	< 1 gpm	Radial flow onto floor of Station Service Transformer Room.	Contained in room.	TO1 Room = 1,870 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous			TO2 Room = 2.272 gallons
Catastrophic failure	1,400 gal	Gradual to Instantaneous			
Main Units #1 – #6 – Turbine; Thrust, Lower Guide, and Turbine Guide Bearings					
Leaking fitting, seal, gasket, or pipe – Lower Guide Bearing	1 – 450 gal	15 gal/hr	Radial flow into turbine pit then to sump.	Active Measures	NA
Leaking fitting, seal, gasket, or pipe – Turbine Hub	1 – 2,260 gal	1 gal/hr	Radial flow into river	NA	
Leaking fitting, seal, gasket, or pipe – Turbine Governor Accumulator Tank	1 – 2,250gal	0.1 gal/hr	Radial flow into turbine pit then to sump.	Active Measures	
Leaking fitting, seal, gasket, or pipe – Turbine Thrust Bearing	1 – 2,500 gal	1 gal/hr	Radial flow into turbine pit then to sump.	Active Measures	
Leaking fitting, seal, gasket, or pipe – Upper Guide Bearing	1 – 170 gal	1 gal/hr	Radial flow into turbine pit then to sump	Active Measures	
Leaking fitting, seal, gasket, or pipe – Turbine Guide Bearing	1 – 100 gal	1 gal/hr	Radial flow into turbine pit then to sump	Active Measures	
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow into turbine pit then to sump.	Active Measures	
Catastrophic failure	170 gal – 2,260 gal	Gradual to Instantaneous	Radial flow into turbine pit then to sump or river	Active Measures	
Main Units #1 - #6 – Governor Sump					
Leaking fitting, seal, gasket, or pipe	1 – 2,250 gal	11 gal/hr	Radial flow onto floor to nearest drain then to sump	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous			
Catastrophic failure	2,250 gal	Gradual to instantaneous			

[1] Modes of failure presented in order of most likely to least likely.

[2] Potential Discharge Volume is per container or piece of equipment.

Potential Discharge Volumes and Flow Direction of Powerhouse Containers & Oil-Filled Operating Equipment					
Type of Failure[1]	**Potential Discharge Volume[2]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Fish Attraction Pump #1 – #3 Gearboxes					
Leaking oil seal, fitting, or valve	1 – 113 gal	13 gal/hr	Radial flow onto floor and then to river	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	113 gal	Gradual to instantaneous			
Emergency Diesel Generator Day Tank					
Leaking pipe fitting	1 – 600 gal	1.25 gal/hr	Radial flow onto floor and then to sump	Double-walled tank	> 600 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	600 gal	Gradual to instantaneous			
Emergency Diesel Generator Main Fuel Tank					
Leaking pipe fitting	1 – 3,000 gal	0.2 gal/hr	Radial flow into annular space of double-walled tank	Steel containment berm	2,210 gallons
Leaking pipe outside of containment	1 – 3,000 gal	< 1 gpm	Radial flow onto concrete then into River	Active Measures	Not Applicable
Loss during petroleum transfer or maintenance	1 – 120 gal	< 62 gpm			
Loss during petroleum transfer or maintenance – truck side	1 – 120 gal	< 62 gpm	Radial flow into temporary containment berm established around truck	Temporary containment berm	> 120 gallons
Catastrophic failure	3,000 gal	Gradual to instantaneous	Radial flow into annular space of double-walled tank	Steel containment berm	2,210 gallons
Used Oil Tank 1					
Leaking pipe fitting	1 – 100 gal	0.2 gal/hr	Flow into secondary containment	Portable berm	1,077 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	900 gal	Gradual to instantaneous			
Used Oil Tank 2					
Leaking pipe fitting	1 – 100 gal	0.2 gal/hr	Flow into secondary containment	Portable berm	1,077 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	500 gal	Gradual to instantaneous			

Potential Discharge Volumes and Flow Direction of Powerhouse Containers & Oil-Filled Operating Equipment					
Type of Failure[1]	**Potential Discharge Volume[2]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Transformer Oil Tank #1 & Transformer Oil Tank #2					
Leaking fitting, valve packing, or bolted connection	1 – 20,000 gal	38.5 gal/hr	Radial flow onto floor	Contained in room	51,825 gallons
Loss during oil purification	1 – 450 gal	45 gpm	Radial flow onto floor of Oil Purification Room.	Contained in Purification Room	467 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto floor.	Contained in room	51,825 gallons
Catastrophic failure	20,000 gal	Gradual to instantaneous			
Turbine Oil Dirty Tank & Clean Tank					
Leaking fitting, valve packing, or bolted connection	1 – 10,000 gal	25.7 gal/hr	Radial flow onto floor.	Contained in room	25,000 gallons
Disconnection of hose during oil purification	1 – 450 gal	45 gpm	Radial flow onto floor of Oil Purification Room.		467 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto floor.		25,000 gallons
Catastrophic failure	10,000 gal	Gradual to instantaneous			
Gravity Lube Oil Tank					
Leaking fitting, valve packing, or bolted connection	1 – 500 gal	5 gpm	Radial flow into secondary containment.	Contained in concrete room	540 gallons
Loss during petroleum transfer or maintenance	1 – 55 gal	Gradual to instantaneous	Radial flow into secondary containment.		
Catastrophic failure	500 gal	Gradual to instantaneous	Radial flow into secondary containment.		
Oil Purification Room Used Oil Drums					
Spill during transfer operation	1 – 5 gal	Instantaneous	Radial flow onto floor.	Contained in room	> 55 gallons
Catastrophic failure or container tip over with lid off	55 gal	Gradual to instantaneous			
Oil Water Separator Used Oil Drums					
Spill during transfer operation	1 – 5 gal	Instantaneous	Radial flow into containment pallet.	Containment pallet	> 55 gallons
Catastrophic failure or container tip over with lid off	55 gal	Gradual to instantaneous	Radial flow into containment pallet or to floor drain and into sump.	Containment pallet; Active measures	> 55 gallons
Hazardous Waste Storage Area Oil Storage Drums					
Spill during transfer operation	1 – 5 gal	Instantaneous	Radial flow into containment pallet.	Containment pallet	> 55 gallons
Catastrophic failure or container tip over with lid off	55 gal	Gradual to instantaneous	Radial flow into containment pallet or to floor drain and into sump.	Containment pallet; Active measures	> 55 gallons

Intake Deck Containers and Oil-Filled Operating Equipment

System	Container Description	Location	Contents	Capacity	Alarms	Inspections	Spill Response
Oil-Filled Operating Equipment							
Main Unit Transformers	Unit # 1	Intake Deck (El. 651)	Transformer Oil	15,539 gallons each	Yes	Monthly Visual Inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	Unit # 2						
	Unit # 3						
	Unit # 4			10,667 gallons each			
	Unit # 5						
	Unit # 6						
Intake Gate Hydraulic Cylinders	1		Hydraulic Oil	390 gallons each	None		
	2						
	3						
Gear Boxes	GB-1	Spillway Gate (El. 651)	Mobile Gear 632	210 gallons each			
	GB-2						
	GB-3						
	GB-4						
	GB-5						
	GB-6						
	GB-7						
	GB-8						
Storage Containers							
Kenix Gantry Crane Fuel AST	IC-1	Intake Deck (El. 651)	Diesel	378 gallons	None	Monthly Visual Inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
Mobile Crane	90-Ton Linkbelt	Various Locations	Diesel	75 gallons			
			Hydraulic Oil	200 gallons			
Emergency Intake Gates	AST	Intake Deck (El. 651)	Hydraulic Oil	1,320 gallons			
Spillway Generator	NA	North Shore Diesel Generator Room	Diesel	100 gallons			
Shop-built Tank	NA		Grease	55 gallons			

Total Regulated Storage Capacity*	**83,596 gallons**

Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.

Potential Discharge Volumes and Flow Direction of Spillway Containers & Oil-Filled Operating Equipment					
Type of Failure[3]	**Potential Discharge Volume[4]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Main Unit Transformer					
Leaking pump seal or fitting	1 – 15,539 gal	7 gal/hr	Radial flow into concrete containment berm	Concrete containment berm	6,692 – 9,750 gallons
Loss during oil transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto concrete driveway and into the River.		
Catastrophic failure	15,539 gal	Gradual to Instantaneous	Radial flow into concrete containment berm		
Intake Gate Hydraulic Cylinders					
Leaking pump seal or fitting	1 – 390 gal	7 gal/hr	Radial flow into River	None	NA
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	390 gal	Gradual to Instantaneous			
Gear Boxes					
Leaking pump seal or fitting	1 – 210 gal	7 gal/hr	Radial flow into River	None	NA
Loss during oil transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic failure	210 gal	Gradual to Instantaneous			
Gantry Crane Fuel AST					
Leaking pump seal or fitting	1 – 20 gal	7 gal/hr	Radial flow into rupture basin	Rupture basin	~400 gallons
Loss during oil transfer or maintenance	1 – 5 gal	Instantaneous	Radial flow onto intake deck	Active measures	NA
Catastrophic failure	378 gal	Gradual to Instantaneous	Radial flow into containment structure	Secondary containment structure	~400 gallons
Emergency Intake Gate AST					
Leaking pump seal or fitting	1 – 1,320 gal	7 gal/hr	Radial flow onto Intake Deck and then into River	Active measures	NA
Loss during oil transfer or maintenance	1 – 5 gal	Instantaneous	Radial flow onto intake deck		

[3] Modes of failure presented in order of most likely to least likely.

[4] Potential Discharge Volume is per container or piece of equipment.

Potential Discharge Volumes and Flow Direction of Spillway Containers & Oil-Filled Operating Equipment					
Type of Failure[3]	**Potential Discharge Volume[4]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Catastrophic failure	1,320 gal	Gradual to Instantaneous	Radial flow onto Intake Deck and then into River		
Spillway Emergency Generator					
Leaking pipe or valve packing	1 – 100 gal	0.2 gal/hr	Radial flow into emergency generator container structure.	Double-walled Tank	>100 gallons
Tank overfill	1 – 80 gal	< 62 gpm			
Truck-side fuel transfer – Accidental disconnect of fueling hose	1 – 10 gal	< 62 gpm	Radial flow onto roadway where it would flow east/west towards the River.	Temporary Containment Berm	> 10 gallons
Tank Failure	100 gal	Gradual to Instantaneous	Radial flow into annular space of double-walled tank.	Double-walled Tank	>100 gallons
90-Ton Linkbelt Crane (Hydraulic Oil)					
Leaking pump seal or fitting	1 - 20 gal	0.2 gal/hr	Onto ground	Active Measures	Not Applicable
Loss during oil transfer or maintenance	1 – 5 gal	5 gal/min	Into portable containment berm	Portable Containment Berm	>200 gallons
Catastrophic failure	200 gal	Gradual to Instantaneous	Onto ground	Active Measures	Not Applicable
90-Ton Linkbelt Crane (Diesel)					
Leaking tank seal or fitting	1 – 20 gal	0.2 gal/hr	Onto ground	Active Measures	Not Applicable
Loss during fuel transfer or maintenance	1 – 5 gal	5 gal/min			
Catastrophic failure	75 gal	Gradual to Instantaneous			
Grease Drum near Emergency Generator					
Spill During Transfer Operation	1 – 5 gal	Gradual	Radial flow into containment pallet	Containment Pallet	55 gallons
Catastrophic failure or container tip over with lid off	1 – 55 gal				

Navigation Lock Containers and Oil-Filled Operating Equipment							
System	**Container Description**	**Location**	**Contents**	**Capacity**	**Alarms**	**Inspections**	**Spill Response**
Oil-Filled Operating Equipment							
Culvert Valve Pump Oil Tanks	1	Navigation Lock Valves (El. 632 and 638)	Hydraulic Oil	**90 gallons each**	None	Monthly Visual Inspections	Stop source of spill, contain oil to the greatest extent practicable. Report incident to Control Room Operator in Charge.
	2						
	3						
	4						
Pump Tank-South Side	1	Miter Gate (El. 635)		**150 gallons each**			
Pump Tank-North Side	2						
Oil Tanks-South Side	Western Bull Gear	Navigation Lock-Upstream Gate (El. 639)	Mobile Gear 629	**70 gallons**			
	Western Gear Reducer		Mobile Gear 632	**95 gallons**			
Oil Tanks-North Side	Western Bull Gear		Mobile Gear 629	**70 gallons**			
	Western Gear Reducer		Mobile Gear 632	**95 gallons**			
Bascule Bridge	Upstream Gear Box	El. 523	Gear Oil	**120 gallons**			
	Downstream Gear Box	El. 616					
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**1,230 gallons**			

Potential Discharge Volumes and Flow Direction of Navigation Lock Oil-Filled Operating Equipment					
Type of Failure[5]	**Potential Discharge Volume[6]**	**Maximum Discharge Rate**	**Flow Direction for Uncontained Discharge**	**Secondary Containment Method**	**Secondary Containment Capacity**
Valve Pump Oil Tanks					
Leaking pump seal or fitting	1 – 90 gal	7 gal/hr	Radial flow into the river	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic Failure	90 gal	Gradual to Instantaneous			
Miter Gate Pump Tanks					
Leaking pump seal or fitting	1 – 150 gal	7 gal/hr	Radial flow onto Miter Gate Room floor	Miter Gate Room drains are plugged	>150 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	Instantaneous			
Catastrophic Failure	150 gal	Gradual to Instantaneous			
Navigation Lock Oil Tanks					
Leaking pump seal or hydraulic cylinder	1 – 95 gal	20 gal/hr	Radial flow into the river.	Active Measures	NA
Loss during petroleum transfer or maintenance	1 – 55 gal	Gradual to instantaneous			
Catastrophic Failure	95 gal	Gradual to Instantaneous			
Bascule Bridge Gear Boxes					
Leaking pump seal or hydraulic cylinder	1 – 120 gal	20 gal/hr	Radial flow into containment room	Containment in concrete room	>110%
Loss during petroleum transfer or maintenance	1 – 55 gal	Gradual to Instantaneous	Radial flow onto ground		
Catastrophic Failure	120 gal	Gradual to Instantaneous	Radial flow into containment room		

[5] Modes of failure presented in order of most likely to least likely.

[6] Potential Discharge Volume is per container or piece of equipment.

Resource Yard, Fish Facility, and Bridge Containers and Oil-Filled Operating Equipment							
System	**Container Description**	**Location**	**Contents**	**Capacity**	**Alarms**	**Inspections**	**Spill Response**
Oil-Filled Operating Equipment							
Spare Unit Transformer	SU-T	Resource Yard (El. 644)	Transformer Oil	**9,400 gallons**	None	Monthly Visual Inspections	Active Measures
JFF Emergency Generator	JFF-EG	Juvenile Fish Facility	Diesel	**530 gallons**			
Storage Containers							
Gasoline Storage AST	GT-1	Resource Yard (El. 644)	Gasoline	**1,000 gallons**	None	Monthly Visual Inspections	Active Measures
Portable Storage Containers							
Diesel Tank	NA	Resource Yard (El. 644)	Diesel	**125 gallons**	None	Monthly Visual Inspections	Active Measures
Total Regulated Storage Capacity* Total Regulated Storage Capacity includes only those containers with storage capacities greater than 55 gallons. Calculation includes only those values presented in **bold** text in the Capacity column of this Table.				**11,055 gallons**			

Potential Discharge Volumes and Flow Direction of Resource Yard Containers & Oil-Filled Operating Equipment					
Type of Failure[7]	**Potential Discharge Volume[8]**	**Maximum Discharge Rate**	**Uncontained Discharge Flow Direction**	**Secondary Containment Method**	**Secondary Containment Capacity**
Spare Transformer					
Leaking pipe or valve packing	1 – 9,400 gal	< 1 gpm	Radial flow into oil barrier storm drain	Active Measures	110%
Gasket joint (mechanical joint) leak	4,932 gal	411 gal/hr			
Loss during petroleum transfer or maintenance	1 – 55 gal	Instantaneous	Radial flow onto ground but unlikely to reach river.		
Catastrophic Failure	9,400 gal	Gradual to Instantaneous	Radial flow into oil barrier storm drain		
JFF Emergency Generator					
Leaking pipe or valve packing	1 – 5 gal	< 1 gpm	Radial flow into portable secondary containment.	Active Measures	Not Applicable
Tank Overfill	1 – 55 gal	Instantaneous			
Fuel Transfer – Accidental disconnect of fueling hose	1- 5 gal	5 gpm			
Tank Failure	530 gal	Gradual to Instantaneous			
Gasoline Storage AST					
Leaking pipe or valve packing	1 – 5 gal	< 1 gpm	Radial flow into secondary containment.	Steel berm	1,100 gallons
Loss during petroleum transfer or maintenance	1 – 5 gal	5 gpm			
Catastrophic Failure	1,000 gal				
Flammable Materials Storage Building					
Spill During Transfer Operation	1 – 5 gal	5 gpm	Radial flow onto building floor.	Active Measures	>200 gallons
Catastrophic failure or container tip over with lid off	1 – 55 gal	Instantaneous			
Catastrophic failure or container tip over with lid off	1 – 55 gal	Instantaneous			
Catastrophic failure or container tip over with lid off	1 – 55 gal	Gradual to Instantaneous			

[7] Modes of failure presented in order of most likely to least likely.

[8] Potential Discharge Volume is per container or piece of equipment.

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix E –

Oil Transfer Procedures

STANDING ORDER NUMBER 504

OIL TRANSFER PROCEDURES

LITTLE GOOSE PROJECT

DATE OF ISSUE: June 16, 2015

A. Intent:
The intent of this SOP is to establish guidelines for the transfer of oil throughout the Powerhouse using the common piping system as originally designed.

B. QUALIFICATIONS

1. Individual must have full knowledge of oil system including location of all valves, lay out of piping, pumps, switches and operation.

2. Individual must possess authority for safe clearances & switching permits.
.

C. Responsibilities:

1. Inform operator (issuing authority) of oil transfer.
2. Obtain safe clearance or switching permit as required.
3. Fill out oil transfer form and make data entry in log book located in oil room.
4. Use the mechanical level indicators located on oil tanks for tank readings.
5. Oil cart on elv. 542 shall be used to confirm flow and tank level during transfer.
6. Ensure all valves are in proper position prior to transfer of oil.
7. Ensure all valves are returned to normal position upon completion.
8. Upon completion of transfer take level reading enter in log and on transfer form
9. Inform operator of completion and release clearance or switching permit.

D. Operations:

1. Transferring of oil shall require 2 personnel either by pump or gravity; 1 at location where the oil is being to or from and the other in the oil storage room monitoring progress. Radio communications shall be maintained during transfer operations.

2. Drain stops shall be installed in drains as needed and location of spill kit shall be easily accessible.

E. Emergency

1. In the event of an oil spill Shift Operator shall be notified immediately. Delay in notification is only authorized to prevent the spill from reaching the river. Follow the emergency procedures located in the Quick Response Guide of the Spill Plan.

_____

Roger M. Golladay
Operations Project Manager
Little Goose Lock and Dam

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix F –

Letter of Commitment

Letter of Commitment

The U.S. Army Corps of Engineers, Walla Walla District (Corps) pursuant to 40 CFR 112 hereby establishes a Spill Prevention, Control, and Countermeasure Plan (SPCC Plan), which will be maintained at the Little Goose Lock and Dam. Project management acknowledges their responsibility to neighbors, employees, and the community to take all reasonable steps necessary to prevent spills from its facility in order to protect human health and the environment. If a spill does occur, the employees of Little Goose Lock and Dam will take all necessary steps as outlined in the SPCC Plan to minimize the impact of such a spill.

Pursuant to 40 CFR 112.7, full approval of this SPCC is extended by management at a level of authority necessary to commit the resources for its implementation.

_____

Authorized Facility Representative

_____

Signature

_____

Title

_____

Date

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix G –

Personnel Training Forms

PERSONNEL TRAINING LOG

Little Goose Lock & Dam

Name	Date	Initial Training	Annual Training

PERSONNEL TRAINING FORM

Name: _____

Facility Name: **Little Goose Lock & Dam**

Type of training: Circle all that apply	
Pollution Control Laws, Rules Regulations	Spill Containment
Inspection of Petroleum Storage Components	Spill Control
Tank Loading and Unloading Procedures	Petroleum Transfer Operations
Incident Command	

I certify that I have been trained in the items indicated above and have read and understand the SPCC plan prepared for this facility:

Employee Signature: _____ **Date:** _____

SPCC Trainer: _____ **Date:** _____

Spill Prevention, Control, and Countermeasure Plan

Little Goose Lock and Dam

Appendix H –

Oil Accountability Program

LITTLE GOOSE PROJECT OIL ACCOUNTABILITY PROGRAM

APPROVED:

_____ _____

Date

Revision/Review History

Revision	Date	POC	Description of Change
1	07/09/2015	Feider	Initial Created

1. PURPOSE. The purpose of this Standard Operating Procedure (SOP) is to ensure oils and greases are properly accounted for at the Project through specific inspections, monitoring, assessments, documentation, reporting, and transfer procedures. This procedure shall further define the requirements set forth by the Walla Walla District Oil Accountability Standing Environmental procedure 200-2-3.

2. APPLICABILITY. This standard applies to all bulk storage containers 55 gallons and over, oil-filled operating equipment 55 gallons and over, and identified high-risk equipment at Little Goose Lock and Dam.

3. REFERENCES.

    a. 40 CFR Parts 112, Oil Pollution Prevention.
    b. Walla Walla District Oil Accountability Program (OAP) SOP 200-1-1.
    c. NWWOM 1130-1-5 Maintenance Management Workflow Control Process.
    d. Little Goose SOP-xxx-xxx, Lubrication Oil Movement Procedure.
    e. Little Goose Spill Prevention Controls and Countermeasures Plan (SPCC).

4. DEFINITIONS.

    a. **Oil-Filled Operating Equipment (55 gallons or greater).** Oil-filled operating equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operating equipment is not considered a bulk storage container, and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (*e.g.*, those for pumps, compressors and other rotating equipment, including pump jack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device (40 CFR 112).

    b. **Bulk Storage Containers (55 gallons or greater).** Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container (40 CFR 112).

c. **High-Risk Equipment**. High-risk equipment means any oil or grease-filled operating equipment or storage container with oil storage capacity of less than 55 gallons that the project determines has significant potential for oil or grease release to waterways. High-risk equipment is identified in Attachment 1.

d. **Assessment**. An assessment is determining what is required to repair a leak identified during an inspection or other means. The assessment will be documented utilizing the Facility Equipment Maintenance (FEM) System following the provisions in NWWOM 1130-1-5, Maintenance Management Workflow Control Process.

5. RESPONSIBILITIES.

a. **Operating Project Manager**.
   i. Ensures that a project level procedure, is established as directed by Walla Walla District Oil Accountability Program SOP 200-1-1.
   ii. Assigns in writing, a Project Oil System Inspector (POSI).
   iii. Ensures that reports are reviewed and remedies are investigated if discrepancies in oil volumes are discovered.
   iv. Reports major discrepancies and remedies to the District Chief of Operations Division as he or she determines is necessary.
   v. Requests funding to meet oil accountability requirements and to improve the oil accountability program.

b. **Chief of Maintenance**.
   i. Receives and reviews leak inspection and assessment documentation.
   ii. Ensures maintenance personnel are trained on oil accountability and oil transfer procedures.
   iii. Ensures required maintenance crew oil accountability inspections are completed on time.
   iv. Ensures oil leaks are assessed and repaired in a timely manner.

c. **Chief of Operations**.
   i. Ensures required operator and fish way oil accountability inspections are completed on time.

ii. Ensures operators and fish way personnel are trained on oil accountability procedures.

d. **Administrative Officer (AO).**
   i. Ensures warehouse procedures are established to assist with oil accountability, such as inventory and procurement of oils and greases.
   ii. Ensures warehouse and supply personnel are trained on oil accountability procedures.

e. **Chief of Technical Section**.
   i. Provides support for technical evaluations of grease and oil systems.

f. **Project Environmental Compliance Coordinator**.
   i. Conducts annual audits of the project oil accountability program.
   ii. Compiles data and tracks potential trends of oil loss and reports those findings to management. Prepares annual oil accountability report and submits to District ECC.

g. **Project Oil System Inspector (POSI).**
   i. Assigned by the OPM as the individual responsible to oversee the oil accountability program.
   ii. Receives and reviews inspection and assessment reports.
   iii. Ensures training is provided to project personnel on oil accountability procedures.

6. PROCEDURES.

a. **Inspection**. All oil-filled operating equipment (55 gallons or greater), bulk oil storage containers, and high-risk equipment at the Project shall be periodically inspected. Attachment 1 lists identified equipment. Inspections will be accomplished utilizing Preventative Maintenance (PM) work orders.
   i. Equipment that is readily accessible. Monthly PMs will be performed to inspect for leaks and if feasible to ensure the oil level is in the normal operating range. They shall have a local work type of Oil Accountability (OA) and will be critical PMs. A breakdown of inspection schedules can be found in Attachment 1.

ii. Equipment that is not readily accessible such as Fish Screen gearboxes. The established annual PM will be used to inspect these assets for leaks and that the oil level is in the normal operating range. These inspections shall be performed by maintenance, have a local work type of OA and be critical PMs.

- Other established PMs that inspect for leaks and oil levels on identified equipment such as weekly rounds or main unit annual PMs, the OA local work type does not need to be used. However, follow-up work orders for leaks discovered during these inspections shall have the OA local work type.

iii. Review. A monthly FEM report containing Oil Accountability inspection and assessment work orders for the previous month will be generated by Maintenance Technicians and be reviewed by the Project ECC and the Chief of Maintenance. The purpose of this review is to look for trends, and to ensure identified leaks are being properly addressed.

iv. Documentation. Inspection documentation shall be accomplished as per NWWOM 1130-1-5, Maintenance Management Workflow Control Process.

v. Reporting. If an Oil Accountability PM cannot be accomplished in the month it is due, the Chief of Operations or Chief of Maintenance shall brief the OPM on why it cannot be accomplished.

b. **Assessment**. Leaks or observable changes in level indication that indicate a discernible loss of oil that is not associated with normal operations require an assessment. These assessments will be accomplished utilizing FEM work orders with the local work type set to Oil Accountability (OA). Prior to generating a new work order, ensure there is not already a work order in the system. SPCC procedures will be utilized to respond to a release to the environment and will be dealt with immediately.

i. Assessment Criteria. A work order will be generated on the following:

- Any equipment with high or low levels or alarms.
- Malfunctioning automated grease systems that result in excessive or leaking grease.

- All class 3 leaks and all class 2 leaks on equipment identified in attachment 1, given the following definitions:
  Leak Severity
  Class 1 – Wet, seepage of fluid, but not enough to form drops.
  Class 2 – Seepage of fluid that forms drops.
  Class 3 – Actively dripping.

ii. Review. A monthly FEM report containing Oil Accountability assessment work orders for the previous month will be generated by Maintenance Technicians and be reviewed by the project ECC and the Chief of Maintenance. The purpose of this review is to look for trends and to ensure identified leaks are being properly addressed.

iii. Repair and Documentation. The Maintenance Department will conduct an investigation of the equipment to determine cause, and the steps needed to correct the deficiency. Leaks should be repaired as soon as possible or scheduled to be completed in conjunction with scheduled outages if it's not feasible to repair the leak at time of discovery. Drip pans or absorbents are an acceptable temporary action until the leak can be repaired. Corrective actions will be documented in accordance with NWWOM 1130-1-5.

c. **Inventory**. Annually inventory the amount of oil and grease that is stored, purchased, used, recovered, and disposed of for the applicable bulk storage, oil/grease-filled operating equipment, and identified high-risk equipment. For Turbine oil, Transformer oil and Head Gate Oil, the inventory will be accomplished using a mass balance of oil that's in the system, for other identified equipment, the inventory will be accomplished by tracking the amount of oil drained and/or added. Grease will be reported by the amount used per type of applicable grease.

i. Stored. Amount of oil in the system or equipment.

- Turbine, transformer, and head gate oil – estimated amount in each unit, transformer, or cylinder in the normal operating range plus the amount stored in bulk storage containers, not the amount per bearing or sump.

a) The POSI shall complete the mass balance work sheet following the instructions on the worksheet. The mass balance number for each of the 3 systems will be compared to the previous year's mass balance number and any disparities identified via the annual report.

- Grease – Amounts of applicable grease by barrel, bucket or tube stored in the warehouse.
    a) The POSI shall work with the warehouse person, to identify through FEM how much of the identified greases were used during the year. How much was purchased as compared to how much was checked out of the warehouse.
- All other oil-filled operating and high-risk equipment – the amount that's in the gearbox, hydraulic power unit, or tank.
    a) Maintenance personnel will complete an oil transfer form for all maintenance that involves oil quantity changes on identified equipment.
    b) The oil transfer form will be turned in with the work order the work was performed on and will be routed to the maintenance technicians through the normal work order close-out process.
    c) The crew foreman or maintenance technicians will ensure the oil transfer form is routed to the POSI who will transfer the data from the oil transfer sheet to the inventory spread sheet.
    d) The POSI shall gather the information off the inventory spreadsheet which will be compared to the previous year's information to determine if there are any disparities. Any disparities will be reported via the annual report.

ii. Purchased. Purchases shall be tracked through FEM Purchase Request (PR) and verified through shipping receipts. Applicable oils or grease will be identified in the PR description by using "Oil Accountability" so that purchases may be easily identified. Oil and/or grease will be purchased on a separate PR so that they are not buried in the PR lines for bulk orders. Multiple oils or greases may be purchased on the same PR.

- The POSI will gather required data for purchases annually.

- Personnel that purchase oil or grease purchased via contract for identified equipment are responsible to ensure the POSI gets the quantity ordered information so the inventory spreadsheet can be updated.

iii. Recovered. Recovered oil is oil recovered from a spill. It will be reported through the SPCC process but will not be tracked in the inventory spreadsheet because it is either accounted for as disposed of, or it's purified and put back in the storage system, so either way it is accounted for.

iv. Disposed of. Oil shipped off project. Oil should be segregated as much as practical. This will be tracked by the project ECC and account for the disposed amount in the inventory spreadsheet.

v. Used. Oil or grease that is unaccounted for, which may be due to loss (to rags or absorbents, environment, measurement inaccuracies) or consumed.
   - Turbine, transformer, and head gate oil – Previous year's inventory plus amount purchased/added to the system minus current storage inventory and disposed of. This will be calculated by the POSI for the annual report.
   - Grease – Amounts of applicable grease consumed as outlined in item "i" above.
   - All other oil-filled operating and high-risk equipment – The difference between the amounts added and drained from the equipment as identified by the oil transfer process.

vi. Review and Documentation. Oil inventory changes shall be routed through the POSI and tracked on the Oil/Grease Inventory.

d. **Training**. All personnel that have responsibilities associated with oil accountability will receive training on the applicable parts of the process. This training will be provided by the POSI or by supervisors upon implementation or adjustment of this SOP. Completion of training will be routed to the training coordinator and tracked using the training tracking program.

e. **Oil Transfers**. Oil transfers shall be in accordance with Project SOPs, or detailed job plans as part of a FEM work order. The work order shall have a local work type of OA.
    i. Records and Documentation. For all equipment listed in Attachment 1, personnel making transfer shall fill out a standardized oil transfer form, or input the data onto the FEM work order being used to transfer the oil. The transfer form or work order shall be routed according to Project SOPs.

f. **Reporting**. An annual report will be sent to the District ECC by 30 Oct every year that covers the previous fiscal year. The POSI and Project ECC will compile the necessary data to include the following:
    i. Completion rate of Oil Accountability Inspections.
    ii. Explanation of uncompleted inspections.
    iii. Number of assessments generated, completed, and open for the year.
    iv. Explanation of disparity in inventory levels between current and previous years.
    v. List of improvement initiatives related to oil accountability.
    vi. Completed improvements related to oil accountability. (modification that illuminated the equipment from the high risk equipment list etc.)

g. **Auditing**. Project ECC will audit this program annually.

h. **Review**. The POSI will conduct an annual review of the oil accountability program, and will involve other project staff as he or she deems necessary. The review will be documented on the Record of Review and Changes table at the front of this SOP.

i. **Records and Measurements**.
    i. All records regarding oil accountability shall be maintained for 3 years.

Attachment 1: List of Applicable Equipment, Bulk Storage, and High-Risk Equipment. Oil Inspection Responsibilities and Documentation
Attachment 2: Oil Transfer Form

Attachment 2

WALLA WALLA DISTRICT OIL TRANSFER FORM	
1. Date of Transfer:	2. Transferred By:
3. Asset oil being drained from or added to:	4. Specify oil type: (brand name)
5. Quantity of Oil ADDED: (estimate as best you can)	6. Quantity of Oil Disposed of: (estimate as best you can)
7. Oil obtained from: (such as warehouse or oil room)	8. FEM Work Order Number: